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19D CAVALRY SCOUT:
IS THERE ROOM FOR RECONNAISSANCE?

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

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100211593

by

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Fort Leavenworth, Kansas
1993

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93-30782



93 12 21 1 18

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 16 APRIL 1993		3. REPORT TYPE AND DATES COVERED MASTER'S THESIS	
4. TITLE AND SUBTITLE 19D CAVALRY SCOUT: IS THERE ROOM FOR RECONNAISSANCE?				5. FUNDING NUMBERS	
6. AUTHOR(S) MAJOR BRICK T. MILLER, AR, USA					
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Command and General Staff College, ATTN: ATZL-SWD-GD Fort Leavenworth, Kansas 66027-6900				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Same as Block 7				10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES					
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.				12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) The focus of this thesis is to analyze whether or not current scout doctrine, coupled with the OSUT (One Station Unit Training) and unit available training time, permits us the time to adequately train 19D Cavalry Scouts to perform reconnaissance. Furthermore, do we give scouts prioritized tasks, conditions, and standards, or provide them with the appropriate resources? Finally, will all this allow scouts to conduct reconnaissance up to the level of performance required to provide a tactical commander with the information he requires to conduct successful combat operations? This thesis examines the linkage between the individual tasks required to perform reconnaissance and the dependency of collective tasks at the scout platoon level on successful execution of the individual tasks. This thesis suggests that we do not train our scouts based on a prioritization of the most critical tasks. Furthermore, we do not structure them for success on the battlefield by limiting resources needed for mission accomplishment. This makes it improbable that they will be successful at performing those critical collective tasks at the platoon level. This thesis concludes that we have the information, ability, resources and systems required to field trained scout platoons					
14. SUBJECT TERMS 19D Cavalry Scout Reconnaissance Scout Platoon				15. NUMBER OF PAGES 141	
SATC AMTP Stealth				16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED		18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED		19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	
				20. LIMITATION OF ABSTRACT UL	

U.S. GOVERNMENT PRINTING OFFICE: 1980-304-284
GPO

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Accepted _____
NTIS _____
DIA _____

A-1

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MASTER OF MILITARY ART AND SCIENCE

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

19D CAVALRY SCOUT: IS THERE ROOM FOR RECONNAISSANCE by Major
Brick T. Miller, USA, 135 pages.

The focus of this thesis is to analyze whether or not current scout doctrine, coupled with the OSUT (One Station Unit Training) and unit available training time, permits us the time to adequately train 19D Cavalry Scouts to perform reconnaissance. Furthermore, do we give scouts prioritized tasks, conditions, and standards, or provide them with the appropriate resources? Finally, will all this allow scouts to conduct reconnaissance up to the level of performance required to provide a tactical commander with the information he requires to conduct successful combat operations?

This thesis examines the linkage between the individual tasks required to perform reconnaissance and the dependency of collective tasks at the scout platoon level on successful execution of the individual tasks.

This thesis suggests that we do not train our scouts based on a prioritization of the most critical tasks. Furthermore, we do not structure them for success on the battlefield by limiting resources needed for mission accomplishment. This makes it improbable that they will be successful at performing those critical collective tasks at the platoon level.

This thesis concludes that we have the information, ability, resources and systems required to field highly trained scout platoons capable of performing their reconnaissance missions.

ACKNOWLEDGEMENTS

I will take this opportunity to thank my Thesis Committee; Colonel John Eberle, Colonel Gerald McLaughlin, Major Ronald McConnell, and Brigadier General Stanley Cherrie, for the long hours they endured teaching me how to come to grips with this problem and adequately express it. The Washington Army National Guard and SATS-NG author George Karhalos were invaluable to this research by providing me with their updated SATS software for the scout platoon. Additionally, there were more than a dozen classmates and instructors who gave me their valuable time, knowledge, and expertise; but, of these a special thanks goes to five friends and classmates; John MacDonald, Bruce Kizer, Pete Brigham, George Stone, and Mike Rounds. I would be remiss if I didn't thank my wife, Judy. Her unbiased opinion and lack of biased subject knowledge insured that all points were cleanly expressed and that nothing was taken for granted. One final note--Thanks Helen and Marilyn, you were great.

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CHAPTER 1

INTRODUCTION

The commander must be able to see the battlefield. The first step in winning is seeing the battlefield. If the commander can't see the battlefield - before and during the battle - the day, the battle, maybe even the war is lost.¹

The focus of this thesis is to analyze whether or not current scout doctrine, coupled with the OSUT (One Station Unit Training) and unit available training time, permits us the time to adequately train 19D Cavalry Scouts to perform tactical reconnaissance. Furthermore, do we give scouts appropriately prioritized tasks, conditions, and standards, or provide them with the appropriate resources? Finally, will all this enable scouts to conduct reconnaissance up to the level of performance required to provide a tactical commander with the information he requires to conduct successful combat operations?

During 1988, the General Officer Executive Council (GOEC) in its recommendations for the "Reconnaissance and Surveillance and Counterreconnaissance Assessment-Phase I" defined the primary role of the battalion scouts as:

... stealthy information gathering. They should fight only to defend themselves if discovered. Screening is the highest level of security they can do. Other security missions detract from their ability to be the eyes and ears of the commander.²

I will analyze the individual and collective tasks required to complete the reconnaissance mission outlined above and determine what is required, what is attainable, and what can be done to enhance individual level training to meet the mission requirements.

Statement of the Problem

A major indicator of a Battalion Task Force's (BN TF) performance at the National Training Center (NTC), Fort Irwin, CA, is the performance of its scout platoon. During a recent study, as shown in Table 1, the performance of the scout platoon has proved to be one of the keys to success; TF success probability was 90% with good reconnaissance as opposed to 10% when reconnaissance was poor. Without successful performance by the Scout Platoon, it is very difficult to win.³

Then FORSCOM Commander, General Powell, noted: "Experiences at the NTC have consistently highlighted shortcomings in reconnaissance operations."⁴ As a result of poor performance at the NTC, the Army leadership wanted to know why performance was so poor. What were we doing wrong? This resulted in five major reconnaissance studies, a series of GOECs, and NTC focused rotations between 1985 to 1989.⁵

The studies showed conclusively that scout platoons typically did not accomplish their missions. Further, a strong correlation between TF success and scout platoon performance was indicated. The reasons cited for lack of mission accomplishment by the Scout Platoon were: they were unable to move by stealth; they lacked fire discipline; and they were employed in roles that did not match the Scout Platoon capabilities. All five studies focused on the collective performance of the scout platoon conducting reconnaissance and security missions. The corresponding task of analyzing performance (at the individual and crew level) was not addressed as significant. As shown in Table 2, the five studies concluded that the problem areas included performance of platoon collective tasks, faulty organization, shortcomings in leader development, and the inadequacy of available equipment.⁶

As outlined in FM 25-100 and FM 25-101, performance of collective tasks at any level is dependent on building successive levels of task execution starting from the individual level and progressing through to the platoon level. Therefore, the capability to successfully complete individual tasks is the first step in performing required Scout Platoon collective tasks to the standard. This interrelationship is depicted in Figure 1. The results of the studies indicate that the focus needed to accurately assess the level of training of the individual scout is

often neglected. This is critical because, although one of the smallest assets in the TF hierarchy, its level of performance during the closure of main body units with the enemy, is a significant contributor to success on the modern battlefield.

Background

For several thousand years, military leaders have recognized the importance of having timely, detailed, and dependable information on the composition, disposition, and intentions of their enemies. In addition, a first hand knowledge of the terrain to be negotiated and fought was also required by the prudent commander. As decision cycles, the time from detection of the enemy to the execution of actions against him, have decreased with technology, modern warfare has grown even more dependent on reconnaissance information. Commanders at all levels, tactical to strategic, expend significant resources on the collection of intelligence information.

The potential of advanced technology sensor systems has advocates fostering the belief that they are a panacea for the requirements of the future. This would appear to degrade the importance of Human Intelligence (HUMINT) gained or confirmed by scouts on the battlefield. In the past, other technological advancements (e.g. the machine gun, airplane, tank, wireless radio, and strategic ballistic missile) were thought to be the panaceas of their time.

Over time each has proven its real value only when integrated and synchronized with the other assets of warfighting. None has ever replaced the commander's need for real reconnaissance information about his enemy.

The performance of systems such as the Joint Surveillance Target Attack Radar (JSTARS) and the Advanced Tactical Air Reconnaissance System (ATARS) has captured the attention of budget conscious planners as high-technology solutions that save on the cost of HUMINT. These resources are forward looking and capable of monitoring movements of enemy formations hundreds of kilometers forward to the rear of the Forward Line of Troops (FLOT) using thermal, infrared, and electromagnetic sensors.

The Battlefield Framework: Deep, Close, Rear, Security, and Reserve Operations, delineates specific responsibilities and foci for commanders at different levels. This division of responsibility increases the amount of information that is useable and maximizes the capabilities of the systems at each level. This framework is meant to complement and enhance the capabilities at these different levels by prioritizing delivery of required information to the user level. Inherent in this system is a hierarchy of dissemination. This equates to a time delay from receipt of information at the sensor until delivery at the user. During Operations Desert Storm/Shield these systems were used at the strategic through tactical levels.

The time required to distribute these intelligence products to the tactical commander, limited the value of the information in the decision making process during the close battle. This lack of timeliness of intelligence information from the overhead systems validated the importance of the ground scout to the tactical commander.

To truly "see the close battlefield," maneuver commanders will continue to rely on the 19D Cavalry Scout to fulfill his role as the eyes and ears of his commander. Working in concert with technology, the scout may be called on to confirm or deny the intelligence gathered by advanced systems, fill the gap when the operational or tactical Intelligence and Electronic Warfare (IEW) systems are not available, or be the "sole provider" when the operation is moving too fast for the intelligence system to keep the information flowing to the front line commander. This HUMINT link of timely and dependable intelligence, gained through ground scout reconnaissance operations, will provide the commander with the necessary tools to protect his own forces while exploiting the weaknesses of his enemy.

The maneuver commander must carefully synchronize all those assets that he has available to insure that they are force multipliers, not force distractors. Brigadier General E.S. Leland, then the NTC Commander, wrote:

The importance of reconnaissance cannot be overemphasized. There is typically a battle which precedes the battle--a confrontation of opposing reconnaissance units--and the winner of that preliminary battle is most often the victor in the main event.⁷

While General Lelands' comments may sound obvious, it has been my experience that training scouts and the scout platoon are too often a low priority and, therefore, low on the "resourcing list".⁸ In addition, once the main body has made contact with the enemy they are frequently given additional missions other than those of reconnaissance and limited security. This is caused by a perception that their job is done, freeing them to be utilized for crisis action resolution. This perception is inherently faulty and can lead to the loss or nonavailability of this critical asset. The importance of the scout platoon continuing to conduct reconnaissance, thereby gaining information about the next and subsequent engagements should not be underestimated. The resourcing and training of the scout require a requisite priority capable of supporting the continuous operations that he must perform.

Scope of Analysis

The opening paragraph to the 19D10 Skill Qualification Manual (SQT) manual reads:

Recent battle experience has shown that long-range, high-velocity tank cannon and long-range antiarmor missile systems will dominate future battlefields. These weapons are so lethal that--

WHAT CAN BE SEEN CAN BE HIT.

WHAT CAN BE HIT CAN BE KILLED.

To defeat the Threat, US forces must be able to find the enemy first, outmaneuver him, and outshoot him to achieve a kill ratio of five to one. The cavalry scout plays a key role within the US forces. As a cavalry scout, you lead or serve as a member in a unit that conducts reconnaissance operations. To accomplish these missions, your unit must be well trained."

In order to meet the focus of this thesis, the scope of analysis is broken into four major sub-categories:

- (a) What are the Scout Platoon requirements to accomplish the assigned mission of Reconnaissance; tasks, conditions, and standards?
- (b) How are Scout Platoons and their higher headquarters currently organized to meet the requirement?
- (c) Are Scout Platoons and their higher headquarters meeting the requirements?
- (d) If not, what are the possible solutions within the United States Army Training and Doctrine Command (TRADOC) Domains of Doctrine, Training, Leadership, Organizations, Material, and the Soldier (DTLOMS) to meet the requirement?

After a brief review that will show the historical and theoretical importance of scouts and reconnaissance, the analysis will focus on the issue of training the ground scout to accomplish the Reconnaissance mission. Primarily, is the MOS 19D Cavalry Scout properly trained on those

individual tasks required to perform tactical reconnaissance? This research will concentrate on the current level of individual task proficiency in performance of the tactical reconnaissance mission sub-tasks. The TRADOC domains of DTLOMS will be used as the architecture for framing the four sub-categories for analysis. This is critical to proper treatment of this subject, in light of the perceived shortcoming highlighted by Table 2.

A cross-walk of the individual and collective tasks for the Scout Platoon Artep Mission Training Plan (AMTP) Mission: Reconnaissance, has been conducted to illustrate the requirements. Then, the current doctrinal individual training requirements are outlined and evaluated for sufficiency and relevancy to the individual training given the 19D Cavalry Scout during OSUT and upon arrival at an active duty unit. This will allow a determination to be made of the adequacy of training and the ability of the scout platoon to accomplish the tasks inherent in battlefield tactical reconnaissance. In addition, shortfalls identified during this research are analyzed to identify causes. Finally, recommendations to solve shortcomings and deficiencies are proposed.

Importance To Future Operations

Future scouts will need to be super soldiers to operate on the Airland Battlefield, especially if projected material enhancements such as drones and robots, are realized.¹⁰

Purpose

It is imperative that this thesis accomplishes three objectives:

(a) Bridge the analytical and informational gap in the TRADOC Domains.

(b) Show that focused and resourceful individual scout training can make a difference.

(c) Show that we can solve the collective training problems with good individual scout training.

Discussion

Agitate the enemy and ascertain the pattern of his movement. Determine his dispositions and so ascertain the field of battle. Probe him and learn where his strength is abundant and where deficient.¹¹

"If I am able to determine the enemy's dispositions while at the same time I conceal my own, then I can concentrate and he must divide."¹² As Sun Tzu observed, the importance of knowing what your enemy is going to do is key to your own success. The scout, whether in the Battalion/Task Force (BN/TF) or Cavalry Squadron, must be the eyes and ears of the commander. His performance of any,

or, all of the tactical reconnaissance mission sub-tasks has historically been essential to victory.

As stated earlier, the Rand Corporation cited numerous examples of units undergoing rotations at the NTC who won or lost based on the ability of the scouts to provide timely and accurate information to the commander so that he could make informed and accurate decisions in a timely manner.¹³ In fact, the conclusions of the Rand Corporation Study showed conclusively that there was "a strong correlation between successful reconnaissance, leading to accurate knowledge of enemy defensive positions, and a favorable outcome of offensive missions."¹⁴

A contrasting point of view could be that the absence of division level and higher intelligence gathering and analysis systems at the NTC may skew analysis. Simply put, a puzzle without all its pieces can never be a finished picture. Maybe the problem is not as serious as originally portrayed and the redundancy gained by having these additional systems and a higher headquarters overseeing subordinate formations would nullify the deficiencies and allow the TF to be more successful. However, Operations Desert Shield and Storm demonstrated otherwise. Instead it showed that "betting the farm" on redundant systems or another analyst does not solve the problem, nor degrade its seriousness. The timeliness of intelligence information, the need to confirm data, required target

selection/confirmation standards, and the prioritization of the focus of overhead systems showed that additional actors did not decrease deficiencies, but increased information requirements and data transmission times. "Even at the NTC if ELINT was used, the scout would lead the main body to the gap and beyond."¹⁵ The scout will still be required to verify intelligence and update perishable data.

The U.S. Army has clearly stated a requirement and a need for the scout platoon, allocated force structure against it, and provided it resources. Despite advanced technological systems, the U.S. Army can ill afford to improperly train or misutilize the scout. What is required is a sharpened focus, a prioritization of tasks, and imaginative training.

Assumptions, Limitations, And Delimitations

Assumptions

The scope of this study requires that certain previous works and assumptions be accepted as stated in order to allow adequate coverage of the main focus. These assumptions are:

- (a) A common proficiency level has been reached by a like group soldiers at the completion of OSUT.
- (b) The target group (3rd Squadron, 11th ACR), used for the Training Time Analysis during CY 92, is an accurate

reflection of time management throughout the force as a whole.

(c) The analysis and conclusions reached by the five major studies, to include the Rand Corporation Study of October 1987, were valid and accurate at the time of completion.

(d) The 19D10 OSUT Program of Instruction as outlined is adequate and evaluation criteria are met IAW the Program of Instruction.¹⁶

(e) Current 19D10/20 individual tasks and the mission cross-walk to the collective reconnaissance mission will remain constant or change will be minimal and insignificant throughout the period of this study.

(f) Fiscally and technically feasible new equipment and/or vehicles may enhance and/or detract from current techniques, but will only minimally change the inherent tasks of the reconnaissance missions.

Limitations

Limitations on research imposed on this study are due to the following restrictions:

(a) Scout Platoon and Cavalry Platoon are not synonymous in regards to missions and capabilities; a separate analysis of the cavalry platoon in regards to the topic will not be considered here.

(b) Analysis will only include those tasks identified as required to accomplish the tactical reconnaissance mission and the conduct of combat operations.

Delimitations

This study imposes the following delimitations to research:

(a) The scope of this thesis is to analyze the adequacy of the current training system to train the 19D10/20 Cavalry Scouts to perform the reconnaissance mission to standard and identify the causes of any shortfalls. Recommendations for solutions will be limited to the TRADOC Domain of Training.

(b) Training at the individual level crosses the threshold from a science to an art when the assessment and subsequent planning occurs. This study will address the state of this relationship; but, does not have sufficient resources available to attempt to quantify the variables for the time value of each individual task.

CHAPTER II

LITERATURE REVIEW

In order to conquer that unknown which follows us until the very point of going into action, there is only one means, which consists in looking out until the last moment, even on the battlefield, for information.

Ferdinand Foch, Precepts.

The purpose of this chapter is to identify literature available for use by trainers or researchers at the tactical level and to summarize the findings of the five previous studies used as critical source documents throughout this thesis. These references serve as a guide and can assist the assessment and/or training of scouts to perform reconnaissance. These sources are contemporary and comprise some of the clearest thought on the subject of reconnaissance.

The four categories of literature that have been used as the primary means to define and research the parameters of this study are: professional works; After-Action Reports (AAR) from the Combat Training Centers (CTC); Focused Studies (both civilian and military initiated); and professional manuals/Field Manuals (FM): American, NATO, and former Warsaw Pact.

In order to support the analysis methodology, the literature review is divided according to the four research sub-categories as outlined in Chapter I.

Requirements

Historical Review

Information in this area is most abundant. It forms the core of accumulated knowledge and precedent. This characteristic allows it to be utilized as a display of historical precedent for the importance of reconnaissance operations and the role scouts play in the context of close combat operations. This subjective evaluation, in hindsight, can oftentimes be the most objective. Key to its use is the correlation of like circumstances with differing resources and strategies of the study periods. This approach will allow for a clearly defined set of training and performance requirements for tactical reconnaissance and their commensurate importance to victory on the battlefield.

Many of the articles and essays presented in ARMOR MAGAZINE and its predecessor THE CAVALRY JOURNAL have been both influential and informative. In addition, the historical perspectives presented in professional works by SAMS students and earlier MMAS candidates have provided numerous insights into problem areas and solution proposals.

Individual And Collective Task Cross-Walk

The primary information documents for this portion of the research are the United States Army Armor Center 19D10-OSUT, CAVALRY SCOUT PROGRAM OF INSTRUCTION and ARTEP 17-57-10 MTP, SCOUT PLATOON. The Armor School POI defines in detail the individual training and corresponding level of proficiency that the initial entry soldier receives and can perform upon graduation and assignment to a unit. The Scout Platoon MTP outlines in detail the individual to collective task cross-walk. This data was verified using the Standardized Automated Training System (SATS) automated Scout Platoon software package to conduct a like task cross-walk. This allowed for a review of the tasks with actual training tools and documents that a unit trainer has available. Additionally, doctrinal employment of the scout platoon and the techniques used to accomplish their missions are outlined in the FM 17 series of manuals. A listing of these manuals is at Appendix C.

Organization For Execution

The primary source documents for this sub-category incorporate the same as the Historical Review, with the addition of AR350-1, ARMY TRAINING, with MACOM supplemental directives, and actual unit training directives. Focus at this higher level of the training hierarchy allowed for a complete framework to be built from training requirements. These requirements incorporate all of the tasks required for

a unit and individuals to perform on a day-to-day basis over the course of any given year. In addition, Tables of Organization (TOEs) were used to define unit manpower and resource availability/limitations.

Evaluation And Analysis

Evaluation

It is imperative to use numerous source documents for this sub-category in order to construct a comprehensive list of previously identified shortcomings and deficiencies. As stated earlier, five major studies, focused on analyzing reconnaissance issues, were conducted between 1985 and 1988. They were conducted by: the Army Training Board (1985), the Armor School (1986 and 1988), the RAND Corporation (1987), and the Combined Arms Center (1988).

These studies built upon one another and provided conclusions regarding the capabilities and employment considerations of the scout platoon. Consistent among all these studies was a common list of imperatives for successful reconnaissance operations. The scout platoon must:

- (1) gather information by employing stealth.
- (2) only fight when forced to defend itself.
- (3) remain focused on reconnaissance operations.
- (4) be properly employed by commanders within their capabilities and limitations.¹

Previous Reconnaissance Studies

Like this thesis, all five studies progressed from the work of the previous studies and built a substantial database outlining the parameters of the difficulties with conducting reconnaissance operations. It is prudent to highlight each study; as they serve as critical information for this thesis and will highlight a perceived shortcoming that is in critical need of resolution.

In 1985, the Army Training Board examined battalion scout platoon performance at the NTC. Their study entitled, "Enhancement of Reconnaissance and Counterreconnaissance Techniques," focused on the domains of Doctrine, Training, Leadership, Organization, and Material. Board members identified key weaknesses as:

...a lack of operational knowledge on the part of TF Commanders, which leads to inadequate unit training and improper employment." It also concluded that both doctrinal and training deficiencies exist that are contributing factors. Doctrine was developed for cavalry platoons and has been overlaid on the TF Scout Platoon.²

In summary, the study highlighted specific deficiencies such as the lack of TRADOC schooling focused on teaching leaders; improper organization for employment; the lack of specific doctrinal literature and improper and insufficient training. In response, the Armor School rewrote FM 17-98, Scout Platoon to solve the doctrinal issue and developed, resourced, and implemented a Scout Platoon Leader's Course that continues to date as the preparatory

course for lieutenants assigned or anticipating assignment as Scout Platoon Leaders.

The issues of training, employment and organization were left to further analysis which began with an Armor School team, led by Major John D. Rosenberger, studying reconnaissance and counterreconnaissance operations during a focused NTC rotation, 87-1. In agreement with the previous study, he concluded that successful reconnaissance suffered due to shortfalls in doctrine, training, organization, material, and scenarios presented at the NTC.³ Further conclusions focused on systematic failures in prioritization of resources to insure success and a lack of command interest in planning reconnaissance operations and integrating them into the overall TF scheme of operations. Of particular focus was poor integration of reconnaissance operations into the Intelligence Preparation of the Battlefield (IPB) System and failures in prioritizing replacements, vehicle replacements and maintenance, and logistical resupply of critical items and services. The affects of scouts being lost after initiating direct fire engagements and the liability of the M3 CFV due to its conspicuously large signature were further surmised.⁴

Coming on the heels of the Armor School Analysis, the Rand Corporation conducted a thorough analysis of reconnaissance operations at the NTC. This study related TF success in offensive operations to the success of the scout

platoon. Using seventeen Take Home Packets (THPs), and interviews with participants and observer/controllers, the analysis encompassed one hundred and thirty-one battles.

As stated earlier and depicted in Table 2, the Rand Corporation Team found that, "there is a strong correlation between successful reconnaissance, leading to accurate knowledge of enemy defensive positions, and a favorable outcome of offensive operations."⁵ Their analysis showed that poor planning and utilization of available time at Battalion level, coupled with equipment shortcomings (specifically the M3 CFV) resulted in deficiencies that could not be overcome until unit commanders placed greater emphasis on the entire IPB system and equipment changes were made.

They surmised that, "the task force scout platoon alone is apparently insufficient to cover the assigned sector and to accomplish the tasks inherent in complete reconnaissance, in the time available."⁶ Additionally, they recommended, in concert with the previous Armor School Study, that the scout platoons should be equipped with: High mobility, multi-purpose wheeled vehicles (HMMWVs), portable thermal viewers, increased day/night optical devices, increased communications equipment and Global Positioning Systems (GPS)⁷ Like the previous studies, these were relatively low cost solutions that, when integrated into the force structure, have proven to be positive

improvements. The Armor Center study of 1988, in response to a Combined Arms Center (CAC) tasking, supported the anticipated introduction of these changes.¹

CAC tasked Ft Knox to do a complete layout of all cavalry/scout organizations from Corps to Battalion level. This study, "The Cavalry/Reconnaissance Net Assessment-Master Plan," focused on developing mission profiles for each level of reconnaissance in light of threat capabilities and limitations.

In contrast to Rand, the Armor Center stated that the TF Scout Platoons were capable of conducting their Reconnaissance and Security missions, but recommended that wheeled vehicles augment the M3 CFV in the scout platoon organization. In addition, they supported implementation of all other Rand recommendations. Although no personnel gains were realized, the additional resources enhanced the scout platoons' equipment/technical capabilities. However, the lack of increased personnel authorizations prompted the Armor Center to contend "without increased capability in the battalion scout platoon, task force commanders will be forced to augment the reconnaissance/security missions with additional organic forces."⁹ In sum, the required equipment was authorized, but not the additional personnel to adequately man, employ, and service it. Although this was a step in the right direction, it fell short of what was required to fix the identified shortcomings.¹⁰

In response to the Armor Center assessment, the TRADOC Commander, General Maxwell Thurman, directed the Combined Arms Center (CAC) to conduct a thorough review of the Army's capability to conduct reconnaissance and surveillance operations at the brigade and battalion task force levels.

Utilizing the four previous studies, this assessment attempted to capitalize on their recommendations by considering several reorganization options. These included the addition of personnel to the standard scout squad, permanent conversion to the HMMWV as the scout vehicle, and utilization of the motorcycle as a vehicle to enhance the capabilities of the M3 CFV. Unfortunately, General Thurman directed that, regardless of the findings, there would be a no personnel gains within reconnaissance organizations. Constrained by this fact, reorganization initiatives that could have enhanced the scout platoons' capabilities were not realized.¹¹

In summary, the five reconnaissance studies outlined have had a major impact on the doctrine, development of leaders, organization, and equipment of the scout platoon. In addition, although not specifically mentioned, it can be surmised from the data that the reasons for the collective deficiencies presented were rooted in the poor performance of individual skills.

Unit Data

The study groups' yearly unit training program was used to analyze unit usage of available training time during a one year period.

Unit conducted training is subject to the discretion of the unit trainer's priorities and desires and will require some subjective evaluation.

This analysis was accomplished using the 3/11 ACR program from January 92 through December 92. This period was used because it was bracketed by formal evaluations at the Combat Maneuver Training Center (CMTC), Hohenfels, FRG. This unit was chosen because it allowed six scout platoons to be studied simultaneously.

Analysis

All previously discussed source documents were used for this sub-category coupled with a comparative analytical approach to produce quantifiable parameters to this research.

Proposals For Corrective Action

This sub-category is subjective and is the sum of knowledge accumulated from a comparative analysis of the source documents, research, and personal experience.

CHAPTER III

RESEARCH METHODOLOGY

Several studies and recent NTC experience reveal that our brigades and battalion task forces are deficient in conducting reconnaissance, surveillance, and counter-reconnaissance. My intent is to identify the root causes of these problems and implement solutions that may involve one or more of the five domains--doctrine, training, organizations, equipment, and leader development. Solutions must not be solely NTC oriented but need Army wide applicability.¹

This chapter outlines in detail the specific methods and techniques employed in conducting this research. Inclusive are the collection procedures and data refinement processes used and a description of the data assessment criteria. Methodology is depicted in Figure 2.

As stated earlier, the research methodology divides the analysis into four sub-categories: (1) what are the requirements, (2) how are we organized to meet the requirements, (3) are we meeting the requirement, (4) proposals for solutions to the identified shortfalls. Descriptive archival evaluations are used to outline the first, second, and a large portion of the third sub-categories; comparative analytical evaluations are used to quantify the remaining portions of the third, and the fourth sub-categories.

Initially, this study must reemphasize the importance of ground scouts and the human intelligence (HUMINT) that they provide to the tactical commander. This outlines its importance for the Combat Arms community and is extremely important for setting the stage for this research. In an age of increasing technological advances and shrinking budgets it could be all too easy to define away the requirement by using economic or scientific data.

The next requirement is an understandable outline of the tasks inherent in conducting reconnaissance. This will set the initial analytical parameters and give a "mark against the wall" of what must be accomplished. This is possible using the SATS Program and cross-walking the individual tasks to the thirty-three reconnaissance mission collective tasks. This listing is enclosed at Table 3.

I will then outline current doctrinal training requirements as they apply to reconnaissance related tasks and available training time. This will allow the individual and collective tasks of reconnaissance (the requirement) to be linked to an assessment of scout performance.

In the next phase, I will assess the level of proficiency soldiers can achieve in relation to the doctrinal requirements upon completion of OSUT and after a year training cycle. This will allow analysis of a units' ability to get from the start point, or "mark against the wall", to the end-state. End-state is defined here as a

formally evaluated training exercise that has satisfactorily met the standards of all the tasks required to complete the reconnaissance mission. I will utilize comparative analytical methods to validate the sums of individual tasks in relation to the total learning requirements placed upon the soldier.

This is followed by an analysis to show causes and prove or disprove reasons why or why not scouts are reaching the objective and to what level of proficiency. This was accomplished using actual training plans, unit evaluations, AARs and classroom instruction POIs. A panel, comprising officers who have extensive experience commanding scouts, was used to read the text and verify areas where comparative analysis was not possible because of the number of subjective inputs and situational training requirements.²

Shortcomings and deficiencies or tasks that require some type of redefinition, are analyzed, comparatively and historically, for possible solutions. This analysis was required to be both subjective and objective given the nature of the research.

CHAPTER IV

ANALYSIS

Know the enemy, know yourself; in a hundred battles you will never be in peril. When you are ignorant of the enemy but know yourself, your chances of winning or losing are equal. If ignorant of the enemy and do not know yourself, you are certain in every battle to be in peril.¹

Historical Review

Theorists, both classical and contemporary, have consistently stressed the importance of conducting reconnaissance to gain information about the enemy and the terrain. As quoted above, Sun Tzu offered many ideas stressing the importance of learning as much as possible about the enemy's plans, movements, dispositions, and his strengths and weaknesses. This allows for massing your strength against your enemy's weak and vulnerable areas. Such foreknowledge has delineated great generals and warriors from the others.²

Henri Jomini, in his book, "The Art of War," devoted much energy to describing reconnaissance operations and the methods to gain information. He specifically outlined that the Chief of Staff was responsible for, "ordering and directing reconnaissance of every kind, and procuring in

this way as exact information as possible of positions and movements of the enemy."³ To this end, he prescribed four methods of gaining this information: espionage, reconnaissance by skilled officers and light troops, questioning of prisoners of war and forming hypothesis of probabilities.⁴ Of particular note is the last method; for it is the first reference to a system of Intelligence Preparation of the Battlefield (IPB), and knowing how your enemy is generally supposed to act. This is critical because it described the intelligence gathering system as two dimensional; the development of a Situational Template based on perceived actions of the enemy and the confirmation or denial of the Situational Template by reconnaissance units. Jomini recognized that gathering information by reconnaissance was difficult and overreliance on any one method was foolhardy. This, he claimed, was a primary difference between the theory and practice of war.⁵

The insights of these classical theorists undoubtedly had an impact on contemporary theorists like Marshal Tukachevskiy, of the Soviet Army, and General Guderian, of the German Wehrmacht. The impact of these two men during the age of mechanization and the build-up to World War II provide a modern application to the importance of reconnaissance operations. The techniques used to conduct modern reconnaissance operations, then and today, are the application of the theories attributed to Marshall

Tukachevskiy, the leading Soviet military theorist in the pre-World War II period. Although these regulations were not fully implemented (because Stalin disagreed with them), they form the basic structure of modern mechanized reconnaissance operations. Specifically, it advanced that intelligence gathering was the responsibility of all units, commanders and staffs, at all times.⁶ The methods for procuring this information were:

...by the combat activity of troops; by aerial and terrestrial reconnaissance; by observation and listening-in services; by the questioning of prisoners and deserters; by the interception of radio messages, by the study of captured documents and correspondence, as well as by questioning of local inhabitants.⁷

In addition to outlining these methods, known to us today as Communications Intelligence (COMINT), Human Intelligence (HUMINT), Signals Intelligence (SIGINT), and Electronic Intelligence (ELINT), he expressed one major principle of reconnaissance that surpassed all others in importance.

Reconnaissance is conducted ceaselessly and without interruption: before, during, and after the battle, and during a lull in the fighting, reconnaissance is conducted in accordance with the general reconnaissance plan of the headquarters.⁸

This continual reconnaissance was to be conducted as either deep reconnaissance, 25-30 kilometers in advance of the main body, or close reconnaissance, 2-5 kilometers behind the enemy front line. This distinction of types is key to determining the appropriate technique to use and the type of forces required to conduct it.⁹

General Heinz Guderian was one of the most capable practitioners of mobile mechanized warfare. His outline for reconnaissance operations, much like the Soviets', stressed that reconnaissance units must remain focused on their objective and have the common sense and skills to stay alive by avoiding direct fire combat.¹⁰ His requirement for a reconnaissance unit was: "highly mobile, flexible, and easily handled units that possess a wide radius of action and good means of communication."¹¹

As established by these classical and contemporary theorists, reconnaissance operations in pursuit of detailed and timely enemy intelligence is a critical function in conducting battle with one's enemy. This theory and its many contributing sources is the framework for modern US Army reconnaissance doctrine.

Reconnaissance Purpose and Fundamentals

As outlined on pages 3-2 and 3-3 of FM 17-98, SCOUT PLATOON, the purpose of scouts conducting reconnaissance is to provide current, accurate information about the terrain, resources, and enemy within a specified area of operations. This provides the follow-on forces an opportunity to maneuver freely and rapidly to their objective. Scouts keep follow-on forces from being surprised or interrupted, and prevent the forces from losing men and equipment along the way to the objective. Scout platoons perform three types of reconnaissance: route, zone, and area.

Further, there are six reconnaissance fundamentals that are common to all successful reconnaissance operations. They are: use maximum reconnaissance force forward; orient on the reconnaissance objective; report all information rapidly and accurately; retain freedom to maneuver; gain and maintain enemy contact; and develop the situation rapidly. Key to the successful usage of these fundamentals is, as Jomini described, a fundamental knowledge of how your enemy is predisposed to fight.

Essential Tasks

In order to frame the requirements for reconnaissance operations into the segments or actions that can be trained, the US Army has developed a training system that takes the most complicated task and breaks it down to the lowest level of individual soldier tasks that are required to accomplish the overarching mission. This is done through a series of mutually supporting levels, from mission to the collective, leader, and individual tasks. All levels supporting the accomplishment of the mission. These tasks form the backdrop to this analysis. A thorough understanding of them in the context of resources allocated (towards them), will delineate the degree to which they can be accomplished, with what, and at what cost.

IAW FM 17-98, SCOUT PLATOON, the mission of reconnaissance has 33 unique, subordinate collective tasks.

These tasks, when broken out numerically into the categories of the Battlefield Operating Systems (BOS) look like this:

<u>BATTLEFIELD OPERATING SYSTEM OF COLLECTIVE TASKS</u>	
FIRE SUPPORT	0
COMMAND AND CONTROL	6
MANEUVER	11
INTELLIGENCE	2
AIR DEFENSE	2
MOBILITY/COUNTER-MOBILITY/ SURVIVABILITY	8
COMBAT SERVICE SUPPORT	4
TOTAL	33

For each of these collective tasks there are corresponding common tasks (those required of all soldiers) and Military Occupational Speciality (MOS) tasks (those required by scouts) that must be performed in order to successfully accomplish these collective tasks. As outlined in Table 4 there are 348 COMMON 10/20 level tasks and 100 MOS 10/20 level tasks.

Further analysis of this list shows that when repetition of like tasks is deleted and both categories are joined there are 87 COMMON 10/20 level tasks and 28 MOS 10/20 level tasks that must be executed at least once in order to accomplish these collective tasks.

Time Available For Training

First, an analysis was made of a sample unit to determine the mean number of Scheduled Training Man-Hours (STMH) that a unit has available. STMH was determined by taking the mean of daily man-hours scheduled by the

individual Armored Cavalry Troops of the study group. Given that this is a finite number, it is important to understand the availability of time for a unit to conduct training pursuant to reconnaissance operations.

Statistical Analysis, verified by Linear Regression and Correlation Analysis, was used to determine the mean number of Used Training Man-Hours (UTMH) that were actually utilized for training soldiers on the essential tasks. UTMH was determined by analyzing daily training schedules and taking the sum of the STMH that were actually used for training purposes and determining the mean. The results shown in Table 5 indicate that 68% of the STMH in any one month period were actually used to train soldiers on the essential tasks.¹²

Further analysis shows that during the semi-annual gunnery periods and the preceding one month period, March/April and September/October respectively, only 69% of the STMH were used during what is historically, the two most intensive train-up periods each year.¹³ This data is shown at Table 6. Additionally, this data depicts that 46% of the total of UTMH throughout the period, were used during these periods for gunnery prep and gunnery qualification. This represents a significant singular usage for a unit that is not to engage in direct fire battle with the enemy and shoot only in self-defense.

Training in the Schoolhouse

An analysis was made of the training conducted at Fort Knox during 19D OSUT to determine the percentage of essential tasks trained to standard prior to the new Scout arriving at his unit.

The results of this analysis are at Table 7 and show that 51 of the 10/20 level MOS task are taught to standard at 19D OSUT. In comparison to the total quantity of essential tasks, the data indicates that 59% of the 10/20 level common tasks and 36% of the 10/20 level MOS tasks are sufficiently trained, by current standards, upon graduation. This is 53% of the total requirement.

Unit Performance at NTC

Introduction

The purpose of the analyses conducted in this sub-category were twofold: first, to determine the state of current unit performance at the NTC versus earlier observed unit performance and, second, to determine the recurring shortcomings/deficiencies observed during task and skill performance and their causes and/or impacts.

Three sample groups, the sum of observed unit performance from 1985-1992, were used. The first is the Rand Corporation Study, (hereafter referred to as RAND), highlighted earlier, for the period 1985-1987, the second is Maj Terry Wolffs' analysis of 1987-1990, (hereafter referred

to as WOLFF), and third is the authors' analysis of performance during 1990-1992, (hereafter referred to as MILLER).

Analysis of NTC Reconnaissance Battle Outcome

A series of quantifiable analyses were conducted utilizing comparative analytical methods to determine the state of unit performance during the period 1985-1992 and if earlier observations by RAND and WOLFF were still valid or if corrective actions had proven effectual.

Method 1

The first method used, as shown in Table 8, was a straight statistical approach to determine the percentages of reconnaissance unit performance and BN/TF Battle Outcome for the three sample periods.

The RAND results show that reconnaissance unit performance was poor 65% of the missions and that BN/TF Battle Outcome was categorized as failing to meet the objective 56% of the time. During WOLFF, reconnaissance unit performance was categorized as poor 50% of the missions and BN/TF Battle Outcome was categorized as failure 84% of the missions. During MILLER, reconnaissance unit performance was categorized as poor 43% of the missions and BN/TF Battle Outcome was categorized as poor 66% of the observed missions.

The data clearly demonstrates that the performance of scout platoons has improved over the eight year period. It can be inferred that this is a direct result of the additional emphasis placed on the performance and training of reconnaissance units.

Method 2

The Chi Square Test of Independence of Categorical Variables was used to determine whether performance of the BN/TF differed significantly from chance expectancy. As shown in Table 9, the Chi square values for RAND and MILLER (WOLFF was not used because of data collection methods) were significant at the .005 and .025 levels of confidence, respectively. Of particular significance are the values for poor reconnaissance status as it relates to BN/TF Battle Outcome.

The results presented clearly demonstrate the relationship of poor reconnaissance to BN/TF failure and that good reconnaissance does not necessarily predict success.

Within the framework of this analysis, the method of paired comparisons proved to be sufficiently sensitive to detect the significance of reconnaissance to the BN/TF Commander as a large step to failure, but only one of many steps to success.

Method 3

As stated earlier, one of the significant proposed changes to the Scout Platoon organization was the formation of the 10-HMMWV Scout Platoons to test their feasibility for employment because of the perceived increase in stealth capability. Utilizing MILLER, a statistical analysis was accomplished delineating reconnaissance unit performance versus BN/TF Battle Outcome for the two different types of platoons. The goal was to see if there were any significant differences in their success ratios. As shown in Table 10, the CFV equipped platoon was categorized as having performed poorly 50% of the observed missions and BN/TF Battle Outcome was categorized as having failed 65% of the observed missions. The HMMWV equipped platoon was categorized as performing poorly 30% of the observed missions and its BN/TF Battle Outcome was categorized as having failed 70% of the observed missions.

An analysis of this data demonstrates that the type of platoon did not make a difference on the observed outcomes and both types of platoons can achieve the standard. However, it can be surmised that the potential for HMMWV equipped platoons to perform their missions with more stealth is greater than CFV equipped platoons. As with the analysis in method 2, BN/TF Battle Outcome is dependent on more than one variable. Chi square was not employed on

this data because no significant observation was deemed possible given the sample data and relationship.

Method 4

During the review of unit performance at the NTC and conversations with Captain Hoover, of the Center for Army Lessons Learned (CALL), it became apparent that in addition to the performance of the scout platoon and how it was equipped, one other factor required analysis; personnel strength of the Scout Platoon as it embarked on its missions. Captain Hoover had done extensive research in this area and upon inspection it was felt that it deserved attention as a critical indicator of performance.¹⁴

Utilizing data from missions conducted during 1992, as shown in Table 11, analysis clearly indicates that scout platoons are habitually required to start their missions at a mean strength of 78%. There are numerous reasons for this: maintenance failures, assessed losses, failure to reconstitute, etc. At a .001 confidence level, they will begin the mission between 68% and 88% strength. As a consequence of their performance, one can expect that they will be at a mean end of mission strength of 49%. At a .001 confidence level they will have between 30% and 68% of their authorized strength.¹⁵

The data from this analysis clearly demonstrates that a Scout Platoon will have to conduct its missions at greatly reduced strength and take considerable casualties while

conducting reconnaissance operations. This is critical, when assigning extensive missions, to a unit not at maximum strength, with little redundancy, and when planning for continued operations. Extensive reconstitution efforts are required to resupply and resource the Scout Platoon for follow-on operations.

Common Skill Deficiencies/Shortcomings

Introduction

Utilizing data collected for MILLER, NTC reconnaissance unit evaluations were analyzed to determine those skills that were determined to be deficient during performance of the reconnaissance mission and the impact equipment/organization had on the outcome. The initial focus of this analysis was in the four areas described in Chapter 1 as being the primary reasons why scouts fail or succeed; movement by stealth, fire discipline, employment in proper roles, and remaining focused on the reconnaissance objective. However, after compiling the data, it was found that there were 21 distinct areas where recurrent deficiencies occurred. The analysis was expanded to all 21 areas as shown in Table 12. In order to stay within the parameters of a comparative analysis, the original four areas will be addressed specifically and the other areas will be addressed by exception if of significant nature.

Keys to Success

Stealth

As you might expect, units that performed poorly had a high incidence (54%) of lack of compromised movement. However, the data reflects that it was also a significant deficiency (46%) in units who accomplished their mission. Units equipped with the HMMWV were also guilty of not employing stealthy movement. Of critical importance in this area is that analysis shows that both types of platoons, when properly trained, can move stealthily; however, the potential of the HMMWV platoon to move stealthily is higher because of its smaller noise signature and vehicle silhouette. Again, the level of task proficiency is the critical factor in achieving the acceptable standard. The resource merely pushes the higher-end of the potential envelope.

Fire Discipline

The data clearly reflects that scouts who engage in direct fire engagements with enemy lose their ability to conduct reconnaissance and accomplish their mission. Here the HMMWV equipped platoon was less apt to engage in close combat. Primarily, this is a result of not having a weapon like the TOW or 25mm cannon mounted on the CFV and, therefore; not feeling confident in their capability to survive. Although, backwards in its approach, less is

better in this case because it forces proper reaction by the scout.

Employment in Proper Roles

During the entire study period there was only one clear incident of a unit conducting a specified mission that it clearly was not organized or equipped to do. This was a flank guard by a HMMWV equipped platoon. This is a significant improvement over RAND and WOLFF and it can be inferred that this is a direct result of previous analysis and evaluation being translated into leader development and training.

Focus on Mission Objective

As with stealth, it could be expected that units that performed poorly would have a high incidence (78%) of failing to remain focused on the mission objective. The data supports this; however, it appears that incidence of this happening are on the decline. It can be inferred that since this is a complementary task dependent on other variables like time and unit strength available, collective progress and self-evaluation has lowered the incidence of failures occurring. The type of organization was not a significant factor, in and of itself, but complementary in regards to its impact on the other tasks and their cumulative affect on this requirement.

Knowledge of the Enemy

Knowledge of enemy techniques and procedures (tactics), or how he is predisposed to accomplish missions (doctrine), was found to be a significant factor in a unit's ability to accomplish its mission. Units that performed poorly had a significant percentage (75%) of the observed poor performance in this area. Confirmation of the Situation Template is one of the goals of reconnaissance. Information gathered by scouts, confirms or denies the validity of the products of the IPB process. However, without an idea of how the enemy will conduct itself or react to your efforts, the reconnaissance unit is doing nothing more than blundering into situations and hopefully surviving to pass on their information. Scouts, as a matter of survival, need to be experts in enemy tactics and techniques, in addition to vehicle/aircraft identification.

SALUTE Reporting and Maintaining Communication¹⁶

These two complementary tasks were found to be glaring problems in units with poor performance (96% and 66% respectively). The radio is the weapon of the scout. The best intelligence gathering is for naught if you cannot get it to the commander and staff so it can be used. Accurate, timely, and succinct SALUTE reporting and maintenance of communication nets are essential, basic skills. They need to be second nature to the scout platoon and the individual scout.

Maneuver, Movement and Navigation

Data analysis in this area is a compilation of eight areas in the chart at Table 12 (#s 4, 5, 6, 10, 11, 16, 17, 19). The data depicts certain complementary fundamentals that must be adhered to for reconnaissance units to be successful. They encompass an area that could easily be a focus of its own study, but it is important to note for this study that they exist and are still being noted as deficiencies. First, scouts must know the plan and have a SOP. The plan provides focus and the Standard Operating Procedures (SOP) battle drills provide instinctive reactions when the plan does not work. Second, the scout needs to know where he is going, what he is doing and how, and where he is at all times. Third, the scout must know what to do at his objective, how to hide, and how to maintain his security. The data clearly shows that failings in these areas are the traits of poor scouts and is a direct reflection of the quality of the individual and collective training they received.

Aggressiveness and Individual Confidence

Data in this area is a compilation of three areas in Table 12 (#'s 11, 15, and 21). Units that performed poorly were deficient (83%) in the level of aggressiveness exhibited. The data can be interpreted to support a hypothesis that performance, a dependent variable, can be predicted by aggressiveness, the independent variable. I

believe this to be fundamentally flawed and that aggressiveness is an extension of proper training and confidence. Aggressiveness requires a goal or objective to be manifested in the actions of a group or an individual. The goal or objective is discerned by proper training (the skills needed to accomplish the end state) and confidence (the belief in one's ability to reach the end state). Therefore, an accurate interpretation of the data would be that scouts who are poorly trained and lack confidence will not aggressively perform the reconnaissance mission. Units that performed poorly exhibited a significant percentage of the deficiencies in the complementary areas of Individual (92%) and NBC (91%) skills.

Individual Training

Lieutenant General Arthur Collins defined philosophy as: "the general principles or laws of a field of activity ordinarily with implication of their practical application."¹⁷ As expressed in his book, Common Sense Training, he detailed that the philosophy of training was based on four requirements: soldiers, equipment, a place to train or resources, and a trainer with a head. The first three requirements are tangible and can be quantified --- you either have them or you don't. The last requirement is a combination of brains, imagination, interest, initiative, and intuition that gives the trainer the ability to synchronize all the variables and conduct effective

training. That requirement is personally unique to each trainer, intangible and the hardest to provide.¹⁸

Having, up to this point, been able to mathematically quantify the parameters of training the scout (essential tasks, time constraints, resource implications, and observed performance) an attempt was made to quantify each task that a scout must learn with a corresponding value of time. This would enable the construction of a training program that maximized all the variables and should have produced a highly trained and competent scout. Unfortunately, this study area defies scientific quantitative methods because of the inherent variables that impact the training system; however, it can be described. When this juncture is reached in assessing training, the "science" of training is left behind and the "art," as defined by General Collins, comes to preeminence.

The variables can be categorized as solely human in nature. Across a population of trainers and trainees, each possessing different levels of abilities and character traits, the number of possible variable combinations is infinite. This requires the trainer to meet the challenge with mental preparation and physical dedication to five key elements found in all good training. These elements are: BE THERE, soldiers train on what they perceive the trainer will check. If you are there, you not only ensure compliance, you also demonstrate that the training is

important enough for you to forego other competing requirements; REQUIRE HIGH STANDARDS--soldiers will do enough to keep you happy. If you are happy with mediocrity, they will be too; TRAIN TO STANDARD, NOT TIME--soldiers grouse about wasting their time more than any other variable. When time is not the deciding variable, motivation and an increased level of performance is realized; MAKE TRAINING INNOVATIVE AND EXCITING--soldiers enjoy being challenged. Some required training is necessary. Boring and repetitive are not prerequisite attributes for conducting required training; MAKE TRAINING APPLICABLE, REALISTIC, AND HARD--soldiers will astound trainers with the levels they can achieve when they internalize the training and are motivated by challenge. The ability for the trainer to capitalize on these elements are the principals and impetus behind the Army Training Management System.

As described in FM 25-101, BATTLE FOCUSED TRAINING, training in the Army is a cyclic process, characterized by assessing proficiency, planning to overcome deficiencies, executing planned training and evaluating training. As shown in Figure 3, this cycle is a continuous and living process that is dependent upon self and external evaluations. Key to its success is the decentralization of responsibility for training to the lowest possible level. This maximizes the amount of training potential that can be

realized; however, it also breeds its own deficiencies based on the abilities of the trainers. Assessment serves as a system of checks and balances for these trainer induced deficiencies; however, the time lost is irretrievable and again dependent on the capabilities of the assessor.

From the perspective of the Army, as a whole, and the importance translated to the scout platoon, the proper use of time and proper focus of energies and resources is clearly the path to determining the difference between a capable and incapable scout platoon. The bond between the elements of the "Training Triad", as shown in Figure 4, is paramount to this task. Only in a situation where the focus of these elements are prioritized towards reaching culmination on the individual capabilities of each of the TRADOC Domains can we begin to standardize excellence in performance of the scout platoon to more than individual leader/situation dependent.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The value of this type of study comes as a result of the problem-solving process. Whether the outcome of the analysis is positive or negative, it will either validate the current norms or present cause for change in the form of an inarguable analysis and logical solutions to correct deficiencies.

Conclusions

As stated in Chapter I, the objectives for this thesis were threefold. The first objective was bridging the analytical and informational gap in the TRADOC Domains. As shown throughout this thesis, in order to solve a problem or correct a deficiency in an organization the size of the U.S. Army, the problem or deficiency must be logically brought into view and examined for its root causes. The impact of the five major reconnaissance studies on the organization, equipment, doctrine, and training of leaders for the scout platoon, as discussed in this thesis, is proof of this statement. This thesis has the potential to be the keystone to further study that incorporates the importance of the soldiers selected to be the Army's scouts and the tempo and prioritization of their training. If this occurs, then the entire spectrum of the TRADOC Domains can be assessed and

solutions derived that can not only increase the overall performance of scout platoons, but the performance of their parent battalions or task forces.

The second objective was to show how focused and resourceful individual scout training can make a difference in collective performance. This thesis has clearly shown that the current requirements placed on the scout, and his trainers, are clearly too broad and demanding. There are two reasons for this situation. First, as shown in Table 5, the available training time is not being maximized. One can infer that this does not allow sufficient time to gain and maintain the required level of proficiency for such perishable skills. Secondly, there is not a single standardized priority of tasks for each type of scout platoon. As shown in the analysis and illustrated in Table 4, the current quantification of individual common and MOS tasks stops short of prioritizing a manageable list of critical tasks that each platoon must be able to perform. This task has historically been relegated to the "Art of Training" and the individual trainer and/or unit. It can be surmised that this is a key reason for the disparity of scout platoon performance at the NTC over the last eight years. If the Armor School, as the proponent for scout training, in concert with TRADOC, were to develop an attainable prioritized listing of tasks each battalion commander was required to ensure that his scout platoon

could perform to standard, then deficiencies could be further analyzed as either a shortcoming in the training or the task listing. This pragmatic approach is the current methodology for training tank crews for gunnery and is highly effective. By maximizing quantification of the science of tank gunnery to specific crew drills--the WHAT--leaders are challenged to focus their efforts towards imaginative and innovative training that will increase the level of proficiency--the HOW. This thesis will provide specific input in this area regarding a prioritized listing of tasks and structured training to meet the objective.

The third objective of this thesis was to show that the solution to poor collective training results lies with good scout training at the individual level. This is the most self-evident objective; however, it was critical to address this facet of training because it has not been sufficiently emphasized, as evidenced by task performance outlined in Chapter IV and Table 12. This thesis has shown that the solution to scout platoon proficiency lies at the absolute lowest level of training. Every new scout assessed into the Army must be chosen based on stringent mental and physical criteria and schooled in a solid foundation of essential skills at OSUT. This scout needs to arrive at his unit capable of exhibiting not only performance to standard of these basic tasks, but the ability to master increasingly harder and more complex tasks. This standardization will

have two effects upon units. First, it will allow all scout platoons to have a baseline start point for training individuals. Secondly, by constant input to an established standard, the momentum will build a corps of similarly trained scouts that, as they rotate through units, will allow the level of training to increase exponentially. Because they have been trained to an increasingly higher standard, within the framework of the prioritized task list discussed earlier, they will progress through the leadership structure and increase the level of professionalism within the entire scout community. This will have the same effect as moving downhill behind the snowball versus pushing the same one up the same hill that is currently the case.

The analytical sum of these three objectives present a strong argument favoring the necessity of the scout platoon in all future combat arms maneuver battalions and the criticality of the information collected during reconnaissance operations to the BN/TF commander. Through historical and contemporary theoretical commentary and quantitative analysis, this study has shown that the need for information gained by ground scout reconnaissance is as viable today as it was in the era of Sun Tzu, and as it will be in the foreseeable future. Scouts bring a very special skill and capability to the modern battlefield for the combat arms maneuver commander. The skill is one gained only through determination, focused effort, and dedication

to professionalism. This capability can be the critical key to victory for the tactical commander when trained properly, resourced adequately, and used correctly, or it can be his bane when left untrained, unresourced, and misused.

Recommendations

As stated in the thesis delimitations outlined in Chapter I, this thesis will only propose recommendations that fall within the TRADOC Domains of Training and Soldier.

These recommendations fall into three areas: a prioritization of individual and collective tasks required to best perform the reconnaissance mission; a practical application of the analyses in the form of: a list of scout selection criteria, a standardized scout platoon weekly training schedule template, and an outline of required training; and recommendations for future study.

Task Prioritization

Utilizing the analysis discussed in Chapter IV and the training management methodology of Battle Focused Training, an assessment was made of those recurring deficiencies that had a negative impact on scout platoon mission accomplishment. The areas determined to be critical to mission accomplishment were:

- (1) maneuver, movement, and stealth
- (2) fire discipline
- (3) employment in proper roles

- (4) focus on the reconnaissance objective
- (5) knowledge of enemy and allied equipment,
aircraft, and doctrine
- (6) SALUTE reporting procedures
- (7) Navigation Skills
- (8) Aggressiveness
- (9) Occupation of positions

Utilizing these areas as foci, an assessment of the collective tasks that support the reconnaissance mission was conducted to determine those tasks that are critical to mission accomplishment. These collective tasks are listed at Table 13 by Battlefield Operating System. Of particular significance is the recommendation for the addition of a new collective task - "Identify Enemy Tactical Employment." This was done to focus the supporting individual tasks towards one quantifiable collective task that addresses the enemy forces and his tactical disposition. In addition, it is surmised that this will elevate this critical task to a level commensurate with its importance. This is key because it will enhance survivability of the scout platoon. This is not to say that the responsibility for analyzing intelligence data should be the forte of the scout platoon leader vice the BN/TF S2. The purpose is to give the scout platoon collectively, and each individual scout, the ability to envision the battlefield and make intelligent decisions regarding tactical employment and maneuver. An analogous

example of this occurs when conducting a search of an area for a particular item; it is infinitely easier to find an item you know the shape and size of, than if you are merely looking for something out of place. Because this is a new collective task, Table 14 outlines the task, conditions, and standards envisioned to quantify proper performance and Table 15 outlines the supporting 19D10/20 level Common and MOS Tasks.

A final assessment was done comparing the current task cross-walk, shown at Table 7, and the new prioritized task list to assess the aggregate shortfall in individual MOS and common tasks. The purpose of this assessment was to insure that significant capabilities were not lost if only tasks on the new listing were performed. This comparison is shown at Table 16, and depicts that no significant loss in individual performance should be incurred by adopting this listing at the 19D 10/20 level.

It can be surmised that the increased level of performance of individual skills from the new listing will significantly enhance the scout platoon's potential for survivability and the accuracy of information. This will increase their ability to provide the confirmation or denial of information required by the tactical commanders. In turn, this will increase the potential for favorable battle outcome at the BN/TF level.

Application of Analysis

Utilizing the analyses presented in this study, previous operational unit training experience, and the recommended prioritized task list, this study will recommend three proposals to enhance scout platoon individual proficiency and collective performance. These proposals will focus on the selection of scouts, standardizing near-term planning, and an outline of required training.

Scout Selection

As quoted earlier by the Commander, USACATA, the scout must be a super soldier. Given the spectrum of mental and physical challenges that we require the scout to perform within, it is not far-fetched to expect that each individual scout should possess certain proven and potential competencies. In an era of build down restructuring and reduced recruitment, the feasibility of acquiring enough soldiers at a higher quality level possessing these competencies seems sound. The value of a quality increase is the reasonable expectation of success during the career of the individual scout, given proper training and skill maintenance.

During the last decade, the U.S. Army-Europe has participated in the Boeselager International Scout Competition hosted by the Bundeswehr. This event features competition among the NATO and European allies to determine the best scout squad by judging performance of scout tasks

and missions under simulated combat conditions. The U.S. Army Team is traditionally one of the best and the level of performance is generally accepted as "world class". As a manner of quantifiable verification, this study will present the selection criteria currently used by units for team selection as a model for the competencies that newly trained scouts should be able to perform upon graduation from OSUT.

These criteria are:

- (1) General Test (GT) score of 110 or better
- (2) PULHES medical evaluation of 111111
- (3) Qualified on the M16A2 rifle
- (4) Army Physical Fitness Test (APFT) score 250 pts.
- (5) Demonstrated proper mental attitude during OSUT
- (6) No history of adverse performance

This study contends that a scout force manned by individuals displaying actual competency in these areas increases the potential for success in training a scout platoon to perform those missions required by the tactical commanders.'

Near-Term Planning

Utilizing the areas critical to mission accomplishment and the resultant proposed Prioritization List as foci, a weekly training schedule template was designed to standardize scout platoon training across the force and to maximize the utilization of available training time. This template is geographically and organization/equipment non-dependent. The Scout Platoon

Standard Weekly Training Template is a specifically termed template vice schedule, because template carries a connotation of flexibility and adaptability.

Shown at Table 17, the template is designed to maximize the usage of available training time in garrison operations during the Amber training cycle outlined in FM 25-100. This cycle is the key preparatory phase for the transition from individual to collective training. The template is not recommended during the Green and Red training cycles because of external variables. The focus is to clearly develop those prioritized tasks and skills to a higher level of proficiency and strip out distractors and wasted time. Given the type of scout described, this schedule not only challenges them physically and mentally, but insures skill training and maintenance.

In comparison to the analysis at Table 7, the proposed template is analyzed at Table 18 and increases productivity by 22%. Over the course of 52 weeks, the proposed schedule will increase UTMH by 346 manhours or roughly seven weeks. This increase will allow for increased task proficiency, collective performance, and adaptability to unforecasted requirements. In addition, it allows for scheduled remedial training periods that are situation dependent and provide flex time for new arrivals or assessed deficiencies of individuals or groups.

An Outline for Required Scout Training

Reviewing the information presented to this point, it seemed crucial that an outline of required training be presented as a framework for understanding, consolidation, and further study. This outline serves as the final piece which binds the sum into a whole. An ideal way of presenting this information would be the unit long-range training plan; however, because of the numerous variables that cannot be replicated by this study, this information is presented as it could be found in a unit training regulation at Table 19.

Recommendations for Future Study

Three areas warrant further study. First, is the question of how we integrate and train scouts that are individual replacements to a unit that has suffered combat losses. As a result of the mission start and end strengths, it can be expected that in time of actual conflict this will become critical. One of the Combat Training Center limitations is that replacements are reconstituted soldiers from the same organization. A study is needed to discuss the WHO and WHERE of integration and HOW much training is required before the platoon can reasonably be expected to accomplish assigned missions.

A second area is a definitive study of the proper scout platoon organization and equipment. During research numerous documents were found soundly defending multiple

solutions. A definitive study without resource constraints should be undertaken to provide an optimum goal and then a constrained study should be executed to find solutions to maximize achieving the goals of the first study. Critical to this study is official sanction and an Army leadership dedication to implementation.

The final area is a study of the feasibility and merit in assigning an engineer and chemical MOS soldier to each scout section and, or squad. These specialized scouts will increase the potential of mission assignment possibilities and specificity of results. Two added bonuses would be: the increased potential for concurrent training of the 19D scouts working alongside the specialists, and the professional development of a group of engineer and chemical soldiers who, upon reaching E-5 Sergeant, would return to organic battalions with a greater understanding of the roles, missions, capabilities, and limitations of combined arms maneuver battalions. The current system of habitual relationships among units task organized for combat contingencies would seem to support this position, not to mention the current doctrinal employment guidance for coordinated tactical, engineer, and chemical reconnaissance.

Summary of Recommendations

The intent of having specificity in the recommendations is not to limit the HOW or "Art" of training; that is the imagination and innovation that we

depend on; but, more-so the purpose of this specificity is to give the WHAT and desired end-state so that trainers are not wasting precious time delineating these tasks--they're training them. Given the proper resources and a command climate that realizes the futility of a zero-defects army, they will be able to accomplish their tasks.

Recent significant results and combat improvements at the CTCs and during Operation Desert Storm have shown that our training methods are improving; however, with future cutbacks, downsizing, and a non-bi-polar world-wide focus strict attention must be paid to intense, realistic and measurable scout training. This position is supported by General David Maddox, Commander-in-Chief, United States Army, Europe and Seventh Army, whose training philosophy-- "Passing isn't good enough anymore" supports this thesis' contention that mediocrity and passing can not be the standard.

ENDNOTES

Chapter I

1. David K. Doyle, "The Indispensable Scout," ARMOR, (September-October 1977): 10.
2. Message, Commander, USACATA, ATZL-TA, 092350ZJAN89, FT Leavenworth, KS, Subject: GOEC Recommendations for the Reconnaissance and Surveillance and Counterreconnaissance Assessment, Phase I.
3. These results have been summarized from M. Goldsmith and J. Hodges, "Applying the National Training Center Experience: Tactical Reconnaissance," (Santa Monica: Rand Corporation, 1987), v.
4. Message, Commander, FORSCOM; 052030ZJUL88, FT McPherson, GA, Subject: Reconnaissance Shortcomings.
5. These results have been summarized from; Captain Dee Christenson, Captain Robert Plummer, and Major Steve Stanfield, "Enhancement of Reconnaissance and Counterreconnaissance Techniques," United States Army Training Board White Paper 4-86, 10 June 1986; Major John D. Rosenberger, "An Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center," USAARMS, FT Knox, KY, February 1987; M. Goldsmith and J. Hodges, "Applying the National Training Center Experience: Tactical Reconnaissance," Rand Corp., Santa Monica, CA, October 1987; USAARMS Study, "Cavalry and Reconnaissance NET Assessment-Master Plan," FT Knox, KY, 1 August 1988; Tasking for CAC, Reconnaissance, Surveillance, and Counterreconnaissance Assessment, from TRADOC Commander, General Maxwell Thurman to CDR USACAC, 15 August 1988.
6. Ibid., multiple pages.
7. E.S. Leland, National Training Center Lessons Learned Commander's Memorandum, Headquarters, National Training Center and Fort Irwin, CA, (20 November 1985), 2.
8. Author has served as a Cavalry Officer for twelve years and held numerous positions where he was responsible for the training of soldiers. These include; but are not limited to,

Platoon Leader, Troop/Company Commander, Division G3 Training Officer, Regimental Operations Officer, and Coach, USA Boeselager Team.

9. DA Soldier's Manual STP 17-19D1-SM, 1-1.

10. CDR, USACATA, MSG 092350ZJAN89.

11. Sun Tzu, The Art of War, as quoted by R.D. Heinl, Jr, Dictionary of Military and Naval Quotations (Annapolis: US Naval Institute Press, 1966), 265.

12. Ibid., 265.

13. M. Goldsmith and J. Hodges, "Applying the National Training Center Experience: Tactical Reconnaissance," (Santa Monica: Rand Corp, 1987), v.

14. Ibid., v.

15. Discussion with Colonel John Eberle, Thesis Chairman, 9 December 1992.

16. U.S. Army Armor School, Program of Instruction, 19D10-OSUT (Fort Knox:USAARMS, 1988), incl.

Chapter II

1. These results have been summarized from; Captain Dee Christensen, Captain Robert Plummer, and Major Steve Stanfield, "Enhancement of Reconnaissance and Counterreconnaissance Techniques," United States Army Training Board White Paper 4-86, 10 June 1986; Major John D. Rosenberger, "An Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center," USAARMS, FT Knox, KY, February 1987; M. Goldsmith and J. Hodges, "Applying the National Training Center Experience: Tactical Reconnaissance," Rand Corp, Santa Monica, CA, October 1987; USAARMC Study, "Cavalry and Reconnaissance Net Assessment-Master Plan," FT Knox, KY, 1 August 1988; Tasking for CAC; Reconnaissance, Surveillance, and Counterreconnaissance Assessment, from TRADOC Commander, General Maxwell Thurman to CDR USACAC, 15 August 1988.
2. Summary of analysis from Captain Dee Christensen, Captain Robert Plummer, and Major Steve Stanfield, "Enhancement of Reconnaissance and Counterreconnaissance Techniques," United States Army training Board White Paper 4-86, 10 June 1986, p.iii; as quoted in Major Terry A. Wolff, "Tactical Reconnaissance and Security for the Armor Battalion Commander: Is the Scout Platoon Combat Capable or Combat Ineffective," (Ft Leavenworth: USCGSC, 1991), 14.
3. Summary of analysis from Major John D. Rosenberger, "An Assessment of Reconnaissance and Counterreconnaissance Operations at the National Training Center," USAARMS, Ft Knox, KY, February 1987, 3-16 incl; as quoted in Major Terry A. Wolff, "Tactical Reconnaissance and Security for the Armor Battalion Commander: Is the Scout Platoon Combat Capable or Combat Ineffective," (Ft Leavenworth: USCGSC, 1991), 15.
4. Ibid., 16.
5. M. Goldsmith and J. Hodges, "Applying the National Training Center Experience: Tactical Reconnaissance," (Santa Monica: Rand Corp, 1987), 6-10 incl.
6. Ibid., 67.
7. Ibid., 69.
8. USAARMC, "Cavalry Reconnaissance Net Assessment-Master Plan," Ft Knox, KY, 1 August 1988, 11.
9. Ibid., 20.

10. Ibid., 20.

11. Tasking For Combined Arms Center; Reconnaissance, Surveillance, and Counter-reconnaissance Assessment and Correspondence by TRADOC Commander, General Maxwell Thurman to Commander USACAC, 15 August 1988, 1.

Chapter III

1. Tasking for Combined Arms Center; Reconnaissance, Surveillance, and Counter-reconnaissance Assessment and Correspondence by TRADOC Commander General Maxwell Thurman to Commander US Army Combined Arms Center, (15 August 1988), 1.

2. Panel of Officers consisted of CGSC classmates who were branch qualified at the Captain level, were either Armor, Armor-Cavalry, or Infantry officers, led or commanded scout platoons, and had a minimum of twelve years of service.

Chapter IV

1. Sun Tzu, The Art of War, translated by Samuel B. Griffith (London: Oxford University Press, 1963), 84.
2. Ibid., 100-145.
3. Henri Jomini, The Art of War, edited by Brigadier General J.D. Hittle (Harrisburg, Pa: Stackpole Books, 1987), 529.
4. Ibid., 537.
5. Ibid., 537.
6. Wallace P. Franz, "Field Service Regulations, Soviet Army, 1936, Tentative," The Art of War Colloquium (June 1983): 9.
7. Ibid., 9.
8. Ibid., 10.
9. Ibid., 12.
10. Major General Heinz Guderian, "Armored Forces," The Infantry Journal (Sep-Oct 1938): 418.
11. Ibid., 418.
12. Inspection of the data shows that 78% of the variation in the UTMH can be attributed to the difference in STMH using Linear Regression Analysis.
13. Using Linear Regression Analysis, 98% of the variation in the UTMH can be attributed to the differences in STMH.
14. CPT Curt L. Hoover, Scout Platoon Survivability Study (FT Leavenworth, KS: Center For Army Lessons Learned, 1992), 2-88.
15. Linear Regression was used to determine the confidence levels for the calculations in Table 11 and stated here.
16. The acronym SALUTE stands for Size, Activity, Location, Unit, Time, and Equipment.
17. Lieutenant General Arthur S. Collins, Common Sense Training: A Working Philosophy For Leaders (Novato, CA: Presidio Press, 1983), 4.

18. Ibid., 3.

Chapter V

1. It is not the author's intent to introduce new analysis, but to utilize a quantifiable example of performance by American soldiers when specific selection criteria have been used successfully. The author as the Coach of the 1992 USA Boeselager Team is uniquely qualified to comment on this aspect of soldier selection and performance.

APPENDIX A
GLOSSARY OF TERMS

Several key terms are used throughout this study and require a common interpretation in order to appreciate fully the context of the discussion and/or the extent of the problem. The following terms are defined for this purpose using the following sources: (1) US Army Field Manual 101-5-1, Operational Terms and Graphics, (Washington, D.C., 1985), pgs 1-6 to 1-63; (2) US Army Field Manual 25-101, Battle Focused Training, (Washington, D.C., 1990), pgs Glossary-3 to 8; (3) US Army Field Manual 17-95, Cavalry Operations, (Washington, D.C., 1991), p. 1-15.

Armored Cavalry Regiment (ACR). The ACR is a self-contained combined arms organization composed of three armored cavalry squadrons, an aviation squadron, a support squadron, and separate CS companies and batteries.

Army Training and Evaluation Program (ARTEP). The program used by Army leaders to identify training requirements, and subsequently plan, resource, execute, and evaluate training.

Battle Task. A task which must be accomplished by a subordinate organization if the next higher organization is to accomplish a mission essential task. Battle tasks are

selected by the senior commander from the subordinate organizations' METL.

Mission. The primary task assigned to an individual, unit, or force. It usually contains the elements of who, what, where, when, and the reasons therefore, but seldom specifies how.

Mission Essential Task. A collective task in which an organization must be proficient to accomplish an appropriate portion of its wartime mission(s).

Mission Essential Task List (METL). A compilation of collective mission essential tasks that must be successfully performed if an organization is to accomplish its wartime mission.

Mission Training Plan (MTP). A descriptive training document that provides units a clear description of what and how to train to achieve wartime mission proficiency. They provide exercise concepts and related training management aids to assist field commanders in the planning and execution of effective unit training.

One Station Unit Training (OSUT). Basic entry level training concept whereby soldiers undergo basic and advanced individual training at one training base post.

Reconnaissance. A mission undertaken to obtain information by visual observation, or other detection methods, about the activities and resources of an enemy or potential enemy, or about the meteorologic, hydrographic, or

geographic characteristics of a particular area.

(1) Route Reconnaissance: A directed effort to obtain detailed information of a specified route or axis and all terrain from which the enemy could influence movement along that route.

(2) Area Reconnaissance: A directed effort to obtain detailed information concerning the terrain or enemy activity within a prescribed area such as a town, ridge line, woods, or other terrain feature critical to operations.

(3) Zone Reconnaissance: A directed effort to obtain detailed information concerning all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries. A zone reconnaissance normally is assigned when the enemy situation is vague or when information concerning cross-country trafficability is desired.

Training and Evaluation Outline (T&EO). A summary document prepared for each training activity that provides information on collective training objectives, related individual training objectives, resource requirements, and applicable evaluation procedures.

Standardized Army Training System (SATS). A database software package that integrates the automation of unit METLs, the commander's assessment of proficiency, MTPs, and the training management administration.

Training Objectives. A statement that described the

desired outcome of a training activity. A training objective consists of the following three parts:

(1) Task: A clearly defined and measurable activity accomplished by individuals and organizations. Tasks are specific which contribute to the accomplishment of encompassing missions or other requirements.

(2) Condition(s): The circumstances and environment in which a task is to be performed.

(3) Standard. The minimum acceptable proficiency required in the performance of a particular training task.

Training Requirements. The difference between demonstrated and desired levels of proficiency for mission essential or battle tasks.

TABLE 1.--National Training Center Battle Outcome Analysis
1985-1987

BATTLE OUTCOME			
STAND OFF*	FAILURE	SUCCESS	RECON STATUS
3	1	9	GOOD
8	30	4	POOR
6	4	4	UNCLEAR

*Author's Note: Stand-off equals Draw.

SOURCE: RAND Corporation Study, "Applying the National
Training Center Experience:Tactical
Reconnaissance," October 1987

TABLE 2.--Comparison of Recent Reconnaissance Studies
1985-1993 Using TRADOC Domains

	DOCTRINE	LDR DEV	TRAINING	ORG	EQUIP	SOLDIER
ATB WP 4-86	X	X	/	X	X	
ROSENB ERGER 2-87	X	X	/	X	X	
RAND 10-87	X	X	/	X	X	
USAARM S 5-88	X	X	/	X	X	
CAC REVIEW 88-89	X	X	/	X	X	
MILLER 5-93	/	/	X	/	/	X

X=Full Analysis

/=Partial Analysis

SOURCE: Author review of five selected Reconnaissance
Studies conducted between 1985-1993.

TABLE 3.--Reconnaissance Mission Collective Task Cross-Walk

	RECONNAISSANCE
FIRE SUPPORT	
NUCLEAR BIOLOGICAL CHEMICAL	
COMMAND AND CONTROL	
PERFORM precombat checks 17-3-1033	X
PERFORM rehearsals 17-3-1034	X
PERFORM tactical planning 17-3-1035	X
EMPLOY command and control measures 17-3-1036	X
EMPLOY operations security (OPSEC) 17-3-1037	X
PREPARE for tactical operations 17-3-1040	X
MANEUVER	
PERFORM a tactical road march 17-3-1012	X
OCCUPY an assembly area 17-3-1013	X

	RECONNAISSANCE
MANEUVER	
PERFORM a message of lines 17-3-1014	X
CONDUCT tactical movement 17-3-1016	X
PERFORM a route reconnaissance 17-3-1017	X
PERFORM a zone reconnaissance 17-3-1018	X
PERFORM an area reconnaissance 17-3-1019	X
RECONNOITER an obstacle and a bypass 17-3-1020	X
EXECUTE actions on contact 17-3-1021	X
SUPPORT a hasty attack 17-3-1022	X
EXECUTE a dismounted patrol 17-3-1024	X
INTELLIGENCE	
PROCESS enemy prisoners of war 19-3-C004	X

	RECONNAISSANCE
INTELLIGENCE	
PROCESS captured documents and equipment 19-3-C005	X
AIR DEFENSE	
USE passive air defense measures 44-3-C001	X
TAKE active air defense measures against hostile aircraft 44-3-C002	X
MOBILITY/SURVIVABILITY	
PREPARE for a chemical attack 03-3-C011	X
PREPARE for a nuclear attack 03-3-C012	X
CROSS a radiologically contaminated area 03-3-C013	X
RESPOND to a chemical agent attack 03-3-C015	X
PERFORM chemical decontamination 03-3-C016	X

	RECONNAISSANCE
MOBILITY/SURVIVABILITY	
CROSS a chemically contaminated area 03-3-C034	X
RESPOND to the initial effects of a nuclear attack 17-3-1038	X
RESPOND to the residual effects of a nuclear attack 17-3-1041	X
COMBAT SERVICE SUPPORT	
PREPARE and evacuate casualties 08-3-C019	X
PERFORM field sanitation operations 08-3-C023	X
PERFORM resupply operations 17-3-1030	X
PERFORM platoon maintenance operations 17-3-1032b	X

SOURCE: SATS Software generation of Reconnaissance Tasks.

TABLE 4.--19D10/20 Level Common and MOS Task List

ESSENTIAL SOLDIER TASKS			
Unit: SCOUT PLT MTP: TNC & MECH INF BN TF			
MOSC: 19D CAVALRY SCOUT			
Skill Level 1			
C = Common Tasks			
Collective Tasks			
Supporting Tasks			
03-3-C011 PREPARE for a chemical attack		03-3-C012 PREPARE for a nuclear attack	
C *PUT ON, WEAR, AND REMOVE YOUR M17 SERIES PROTECTIVE MASK WITH		C *PUT ON AND WEAR MOPP GEAR*	
C *PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25 SERIES PROTECTIVE		C *REACT TO NUCLEAR HAZARD*	
C *USE M8 DETECTOR PAPER TO IDENTIFY CHEMICAL AGENT*		C *CONSTRUCT INDIVIDUAL FIGHTING POSITION*	
C *PUT ON AND WEAR MOPP GEAR*		C *IDENTIFY TERRAIN FEATURES ON A MAP*	
C *USE M9 DETECTOR PAPER TO DETECT CHEMICAL AGENT*		C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*	
C *IDENTIFY TERRAIN FEATURES ON A MAP*		03-3-C013 CROSS a radiologically contaminated area	
C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*		C *PUT ON, WEAR, AND REMOVE YOUR M17 SERIES PROTECTIVE MASK WITH	
03-3-C012 PREPARE for a nuclear attack		C *DECONTAMINATE YOUR SKIN AND PERSONAL EQUIPMENT*	
C *PUT ON, WEAR, AND REMOVE YOUR M17 SERIES PROTECTIVE MASK WITH		C *PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25 SERIES PROTECTIVE	
C *DRINK, USE THE LATRINE, AND CHECK SOLDIER SLEEPING IN MOPP*		C *PUT ON AND WEAR MOPP GEAR*	
C *PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25 SERIES PROTECTIVE		C *REACT TO NUCLEAR HAZARD*	

03-3-C015 RESPOND to a chemical agent attack	
C *USE M9 DETECTOR PAPER TO DETECT CHEMICAL AGENT*	
C *MOVE UNDER DIRECT FIRE*	
C *REACT TO INDIRECT FIRE*	
C *IDENTIFY TERRAIN FEATURES ON A MAP*	
C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*	
C *EVALUATE A CASUALTY*	
C *PREVENT SHOCK*	
C *ADMINISTER NERVE AGENT ANTIDOTE TO SELF*	
C *ADMINISTER FIRST AID TO A NERVE AGENT CASUALTY*	
C *TRANSPORT A CASUALTY USING A ONE-MAN CARRY*	
C *TRANSPORT A CASUALTY USING A TWO-MAN CARRY OR AN IMPROVISED	
C *PUT ON, WEAR, AND REMOVE YOUR M17 SERIES PROTECTIVE MASK WITH	
C *DECONTAMINATE YOUR SKIN AND PERSONAL EQUIPMENT*	
C *DRINK, USE THE LATRINE, AND CHECK SOLDIER SLEEPING IN MOPP*	
C *PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25 SERIES PROTECTIVE	
C *USE M8 DETECTOR PAPER TO IDENTIFY CHEMICAL AGENT*	
C *PUT ON AND WEAR MOPP GEAR*	
C *RECOGNIZE AND REACT TO CHEMICAL OR BIOLOGICAL HAZARD*	

03-3-C015 RESPOND to a chemical agent attack	
C *SEND A RADIO MESSAGE*	
03-3-C016 PERFORM chemical decontamination	
C *PUT ON, WEAR, AND REMOVE YOUR M17 SERIES PROTECTIVE MASK WITH	
C *DECONTAMINATE YOUR SKIN AND PERSONAL EQUIPMENT*	
C *REPLACE FILTERS IN YOUR M17 SERIES PROTECTIVE MASK*	
C *PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25 SERIES PROTECTIVE	
C *USE M8 DETECTOR PAPER TO IDENTIFY CHEMICAL AGENT*	
C *PUT ON AND WEAR MOPP GEAR*	
C *USE M9 DETECTOR PAPER TO DETECT CHEMICAL AGENT*	
C	

03-3-C034 CROSS a chemically contaminated area		08-3-C019 PREPARE and evacuate casualties	
C	*PUT ON, WEAR, AND REMOVE YOUR M17 SERIES PROTECTIVE MASK WITH	C	*APPLY A DRESSING TO AN OPEN CHEST WOUND*
C	*PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25 SERIES PROTECTIVE	C	*ADMINISTER NERVE AGENT ANTIDOTE TO SELF*
C	*USE M8 DETECTOR PAPER TO IDENTIFY CHEMICAL AGENT*	C	*ADMINISTER FIRST AID TO A NERVE AGENT CASUALTY*
C	*PUT ON AND WEAR MOPP GEAR*	C	*APPLY A DRESSING TO AN OPEN HEAD WOUND*
C	*RECOGNIZE AND REACT TO CHEMICAL OR BIOLOGICAL HAZARD*	C	*SPLINT A SUSPECTED FRACTURE*
C	*USE M9 DETECTOR PAPER TO DETECT CHEMICAL AGENT*	C	*TRANSPORT A CASUALTY USING A ONE-MAN CARRY*
C	*IDENTIFY TERRAIN FEATURES ON A MAP*	C	*TRANSPORT A CASUALTY USING A TWO-MAN CARRY OR AN IMPROVISED
C	*DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP	C	*PERFORM MOUTH-TO-MOUTH RESUSCITATION*
C	*ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*	C	*SEND A RADIO MESSAGE*
	COLLECT/REPORT INFORMATION SALUTE	C	*RECOGNIZE AND GIVE FIRST AID FOR HEAT INJURIES*
08-3-C019 PREPARE and evacuate casualties		C	*GIVE FIRST AID FOR FROSTBITE*
C	*IDENTIFY TERRAIN FEATURES ON A MAP*	C	*PUT ON A FIELD OR PRESSURE DRESSING*
C	*DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP	C	*PUT ON A TOURNIQUET*
C	*EVALUATE A CASUALTY*	C	*APPLY A DRESSING TO AN OPEN ABDOMINAL WOUND*
C	*CLEAR AN OBJECT FROM THE THROAT OF A CONSCIOUS CASUALTY*	08-3-C023 PERFORM field sanitation operations	
C	*PREVENT SHOCK*	C	*DRINK, USE THE LATRINE, AND CHECK SOLDIER SLEEPING IN MOPP*
C	*GIVE FIRST AID FOR BURNS*		

17-3-1012 PERFORM a tactical road march

Collect Data for Classification of a Route	
C *IDENTIFY TERRAIN FEATURES ON A MAP*	
C *DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP	
C *DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*	
C *MEASURE DISTANCE ON A MAP*	
C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*	
C *DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS*	
COLLECT/REPORT INFORMATION SALUTE	
C *PERFORM SEARCH AND SCAN PROCEDURES*	
C *PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*	
C *SEND A RADIO MESSAGE*	

17-3-1014 PERFORM a passage of lines

Collect Data for Classification of a Route	
C *MOVE UNDER DIRECT FIRE*	
C *DETERMINE A MAGNETIC AZIMUTH USING A LENSATIC COMPASS*	
C *ESTIMATE RANGE*	
C *IDENTIFY TERRAIN FEATURES ON A MAP*	
C *DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP	

17-3-1014 PERFORM a passage of lines

C *DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*	
C *MEASURE DISTANCE ON A MAP*	
C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*	
C *DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS*	
C *USE CHALLENGE AND PASSWORD*	
COLLECT/REPORT INFORMATION SALUTE	
C	
C *SEND A RADIO MESSAGE*	
C *PERFORM SEARCH AND SCAN PROCEDURES*	
C *ENGAGE HOSTILE AIRCRAFT WITH SMALL ARMS*	

17-3-1013 OCCUPY an assembly area

C *CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*	
C *CAMOUFLAGE EQUIPMENT*	
C *CAMOUFLAGE YOUR DEFENSIVE POSITION*	
C *EMPLOY AN M18A1 CLAYMORE MINE*	
C *RECOVER AN M18A1 CLAYMORE MINE*	
C *SELECT TEMPORARY FIGHTING POSITION*	

17-3-1016	CONDUCT tactical movement
C	*CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*
C	*CAMOUFLAGE EQUIPMENT*
	Collect Data for Classification of a Route
C	*MOVE UNDER DIRECT FIRE*
C	
C	*REACT TO INDIRECT FIRE*
C	*ESTIMATE RANGE*
C	*SELECT TEMPORARY FIGHTING POSITION*
C	*IDENTIFY TERRAIN FEATURES ON A MAP*
C	*DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP
C	*DETERMINE A MAGNETIC AZIMUTH USING A LENSATIC COMPASS*
C	*PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*
C	*SEND A RADIO MESSAGE*
C	*PERFORM SEARCH AND SCAN PROCEDURES*
C	*ENGAGE HOSTILE AIRCRAFT WITH SMALL ARMS*

17-3-1016	CONDUCT tactical movement
C	*DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*
C	*MEASURE DISTANCE ON A MAP*
C	*ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*
C	*DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS*
	COLLECT/REPORT INFORMATION SALUTE
17-3-1018	PERFORM a zone reconnaissance
C	*ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*
	Determine Direction Using Field-Expedient Methods
C	*DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS*
	Use a Map Overlay
	Navigate From One Point on the Ground to Another Point, Mounted
	COLLECT/REPORT INFORMATION SALUTE
C	
C	*PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*
C	*SEND A RADIO MESSAGE*
	Encode and Decode Messages Using KTC 600(*) Tactical Operations
	Use the KTC 1400(*) Numerical Cipher/Authentication System

17-3-1018 PERFORM a zone reconnaissance	
C *SELECT TEMPORARY FIGHTING POSITION*	
Select a Movement Route Using a Map	
Use Visual Signaling Techniques (Dismounted)	
Use Visual Signaling Techniques While Mounted	
C *IDENTIFY TERRAIN FEATURES ON A MAP*	
C *DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP	
Determine a Location on the Ground by Terrain Association	
C *DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*	
Measure Distance on a Map	
C *MEASURE DISTANCE ON A MAP*	
Orient a Map to the Ground by Map Terrain Association	
Estimate Range	
C *ESTIMATE RANGE*	
Use and Maintain M8 or M8A1 Chemical Agent Alarm	

17-3-1018 PERFORM a zone reconnaissance	
C *CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*	
C *CAMOUFLAGE EQUIPMENT*	
Collect Data for Classification of a Route	
Locate a Target by Grid Coordinates	
Operate a Night Vision Sight AM/PVS-4	
Operate the Night Vision Goggles AM/PVS-5	
Operate M18 Infrared Binoculars	
Drive an M2/M3 Bradley	
17-3-1018 PERFORM a zone reconnaissance	
Use Automated Communication-Electronic	
Operate Radio Set AM/VRC-64 or AM/GRC-160	
Operate AM/VRC-12 Series Radio	
Operate Intercommunication Set AM/VIC-1 on a Tracked Vehicle	
Perform Duties of a Road Guide	
Visually Identify Threat and Friendly Aircraft	
C *PERFORM SEARCH AND SCAN PROCEDURES*	
Operate Vehicle with Manual Transmission	

17-3-1019	PERFORM an area reconnaissance	17-3-1019	PERFORM an area reconnaissance
Select a Movement Route Using a Map		C *CAMOUFLAGE EQUIPMENT*	
Use Visual Signaling Techniques (Dismounted)		Collect Data for Classification of a Route	
Use Visual Signaling Techniques While Mounted		Locate a Target by Grid Coordinates	
C *IDENTIFY TERRAIN FEATURES ON A MAP*		Operate a Night Vision Sight AN/PVS-4	
C *DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP		Operate the Night Vision Goggles AN/PVS-5	
Determine a Location on the Ground by Terrain Association		Operate M18 Infrared Binoculars	
C *DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*		Drive an M2/M3 Bradley	
Measure Distance on a Map		C	
C *MEASURE DISTANCE ON A MAP*		Estimate Range	
Orient a Map to the Ground by Map Terrain Association		C *ESTIMATE RANGE*	
C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*		C *SELECT TEMPORARY FIGHTING POSITION*	
C *PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*		Determine Direction Using Field-Expedient Methods	
C *SEND A RADIO MESSAGE*		C *DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS*	
Encode and Decode Messages Using KTC 600(*) Tactical Operations		Use a Map Overlay	
Use the KTC 1400(*) Numerical Cipher/Authentication System		Navigate From One Point on the Ground to Another Point, Mounted	
Use Automated Communication-Electronic		COLLECT/REPORT INFORMATION SALUTE	
		Use and Maintain M8 or M8A1 Chemical Agent Alarms	
		C *CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*	

17-3-1019 PERFORM an area reconnaissance	
Operate Radio Set AM/VRC-64 or AM/GRC-160	
Operate AM/VRC-12 Series Radio	
Operate Intercommunication Set AM/VIC-1 on a Tracked Vehicle	
Perform Duties of a Road Guide	
Visually Identify Threat and Friendly Aircraft	
C *PERFORM SEARCH AND SCAN PROCEDURES*	
Operate Vehicle with Manual Transmission	

17-3-1017 PERFORM a route reconnaissance	
Use and Maintain M8 or M8A1 Chemical Agent Alarm	
C *CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*	
C *CAMOUFLAGE EQUIPMENT*	
Collect Data for Classification of a Route	
Locate a Target by Grid Coordinates	
Operate a Night Vision Sight AM/PVS-4	
Operate the Night Vision Goggles AM/PVS-5	
Operate M18 Infrared Binoculars	
Drive an M2/M3 Bradley	
Estimate Range	

17-3-1017 PERFORM a route reconnaissance	
C *ESTIMATE RANGE*	
C *SELECT TEMPORARY FIGHTING POSITION*	
Select a Movement Route Using a Map	
Use Visual Signaling Techniques (Dismounted)	
Use Visual Signaling Techniques While Mounted	
C *IDENTIFY TERRAIN FEATURES ON A MAP*	
C *DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP	
Determine a Location on the Ground by Terrain Association	
C *DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*	
Measure Distance on a Map	
C *MEASURE DISTANCE ON A MAP*	
C *PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*	
C *SEND A RADIO MESSAGE*	
Encode and Decode Messages Using KTC 600(*) Tactical Operations	

17-3-1017 PERFORM a route reconnaissance			17-3-1020 RECONNOITER an obstacle and a bypass		
Orient a Map to the Ground by Map Terrain Association			C *LOCATE MINES BY PROBING*		
C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*			Collect Data for Classification of a Route		
Determine Direction Using Field-Expedient Methods			C *MOVE UNDER DIRECT FIRE*		
C *DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS*			C *REACT TO INDIRECT FIRE*		
Use a Map Overlay			C *REACT TO FLARES*		
Navigate From One Point on the Ground to Another Point, Mounted			C *ESTIMATE RANGE*		
COLLECT/REPORT INFORMATION SALUTE			C *SELECT TEMPORARY FIGHTING POSITION*		
Use the KTC 1400(*) Numeral Cipher/Authentication System			C *IDENTIFY TERRAIN FEATURES ON A MAP*		
Use Automated Communication-Electronic			C *DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP		
Operate Radio Set AN/VRC-64 or AN/GRC-160			C *DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*		
Operate AN/VRC-12 Series Radio			C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*		
Operate Intercommunication Set AN/VIC-1 on a Tracked Vehicle			COLLECT/REPORT INFORMATION SALUTE		
Perform Duties of a Road Guide			C		
Visually Identify Threat and Friendly Aircraft			C *PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*		
C *PREFORM SEARCH AND SCAN PROCEDURES*			C *SEND A RADIO MESSAGE*		
Operate Vehicle with Manual Transmission			C *PREFORM SEARCH AND SCAN PROCEDURES*		

17-3-1021 EXECUTE actions on contact

COLLECT/REPORT INFORMATION SALUTE	
C *ENGAGE TARGETS WITH AN M203 GRENADE LAUNCHER*	
C *ENGAGE TARGETS WITH AN M60 MACHINE GUN*	
C *MOVE UNDER DIRECT FIRE*	
C *SEND A RADIO MESSAGE*	
C *REACT TO INDIRECT FIRE*	
C *ESTIMATE RANGE*	
C *SELECT TEMPORAY FIGHTING POSITION*	
C *PERFORM SEARCH AND SCAN PROCEDURES*	
C *ENGAGE HOSTILE AIRCRAFT WITH SMALL ARMS*	

17-3-1022 SUPPORT a hasty attack

C *MOVE UNDER DIRECT FIRE*	
C *REACT TO INDIRECT FIRE*	
C *ESTIMATE RANGE*	
C *SELECT TEMPORAY FIGHTING POSITION*	
COLLECT/REPORT INFORMATION SALUTE	

17-3-1022 SUPPORT a hasty attack

C	
C *SEND A RADIO MESSAGE*	
C *PERFORM SEARCH AND SCAN PROCEDURES*	
C *ENGAGE HOSTILE AIRCRAFT WITH SMALL ARMS*	

17-3-1024 EXECUTE a dismounted patrol

C *CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*	
C *CAMOUFLAGE EQUIPMENT*	
C *MOVE UNDER DIRECT FIRE*	
C	
C *REACT TO INDIRECT FIRE*	
C *REACT TO FLARES*	

17-3-1024 EXECUTE a dismounted patrol

C	*ESTIMATE RANGE*	
C	*SELECT TEMPORARY FIGHTING POSITION*	
C	*IDENTIFY TERRAIN FEATURES ON A MAP*	
C	*DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP	
C	*DETERMINE A MAGNETIC AZIMUTH USING A LENSATIC COMPASS*	
C	*DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*	
C	*MEASURE DISTANCE ON A MAP*	
C	*ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*	
C	*DETERMINE DIRECTION USING FIELD-EXPEDIENT METHODS*	
C	*USE CHALLENGE AND PASSWORD*	
	COLLECT/REPORT INFORMATION SALUTE	
C	*PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*	
C	*PRACTICE NOISE, LIGHT, AND LITTER DISCIPLINE*	
C	*SEND A RADIO MESSAGE*	
C	*PERFORM SEARCH AND SCAN PROCEDURES*	

17-3-1033 PERFORM precombat checks	
C *PERFORM A FUNCTION CHECK ON A M16A2 RIFLE*	
C *PERFORM A FUNCTION CHECK ON A M203 GRENADE LAUNCHER*	
C *PERFORM A FUNCTION CHECK ON AN M60 MACHINE GUN*	
C *PERFORM SAFETY CHECKS ON A HAND GRENADE*	
17-3-1034 PERFORM rehearsals	
C *CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*	
C *CAMOUFLAGE EQUIPMENT*	
C *IDENTIFY TERRAIN FEATURES ON A MAP*	
C *DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*	
C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*	
17-3-1013 OCCUPY an assembly area	
C *PRACTICE NOISE, LIGHT, AND LITTER DISCIPLINE*	
C *CLEAR A FIELD OF FIRE*	
C *PERFORM SEARCH AND SCAN PROCEDURES*	
C *CONSTRUCT INDIVIDUAL FIGHTING POSITION*	
C *USE CHALLENGE AND PASSWORD*	
C *PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*	

17-3-1035 PERFORM tactical planning		
C	*IDENTIFY TERRAIN FEATURES ON A MAP*	
C	*DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP	
C	*DETERMINE A LOCATION ON THE GROUND BY TERRAIN ASSOCIATION*	
C	*ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*	
C	*PRACTICE NOISE, LIGHT, AND LITTER DISCIPLINE*	
17-3-1037 EMPLOY operations security (OPSEC)		
C	*CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*	
C	*CAMOUFLAGE EQUIPMENT*	
C	*CAMOUFLAGE YOUR DEFENSIVE POSITION*	
C	*USE CHALLENGE AND PASSWORD*	
C	*PRACTICE NOISE, LIGHT, AND LITTER DISCIPLINE*	

17-3-1037	EMPLOY operations security (OPSEC)			
C	*PERFORM SEARCH AND SCAN PROCEDURES*			
17-3-1038	RESPOND to the initial effects of a nuclear attack			
C	*REACT TO NUCLEAR HAZARD*			
C	*MAINTAIN AN M16A2 RIFLE*			
C	*PERFORM A FUNCTION CHECK ON A M16A2 RIFLE*			
C	*PERFORM A FUNCTION CHECK ON A M203 GRENADE LAUNCHER*			
C	*PERFORM A FUNCTION CHECK ON AN M60 MACHINE GUN*			
C	*ESTIMATE RANGE*			
C	*IDENTIFY TERRAIN FEATURES ON A MAP*			
C	*DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP			
C	*DETERMINE A MAGNETIC AZIMUTH USING A LENSATIC COMPASS*			

17-3-1038

RESPOND to the initial effects of a nuclear attack

C *MEASURE DISTANCE ON A MAP*				
COLLECT/REPORT INFORMATION SALUTE				
C				
C *EVALUATE A CASUALTY*				
C *PREVENT SHOCK*				
C *GIVE FIRST AID FOR BURNS*				
C *PUT ON A FIELD OR PRESSURE DRESSING*				
C *PUT ON A TOURNIQUET*				
C *APPLY A DRESSING TO AN OPEN ABDOMINAL WOUND*				
C *APPLY A DRESSING TO AN OPEN CHEST WOUND*				
C *APPLY A DRESSING TO AN OPEN HEAD WOUND*				

17-3-1038 RESPOND to the initial effects of a nuclear attack

C *SPLINT A SUSPECTED FRACTURE*				
C *TRANSPORT A CASUALTY USING A ONE-MAN CARRY*				
C *TRANSPORT A CASUALTY USING A TWO-MAN CARRY OR AN IMPROVISED				
C *SEND A RADIO MESSAGE*				

17-3-1040 PREPARE for tactical operations

C *PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*				
C *SEND A RADIO MESSAGE*				
C *PERFORM SEARCH AND SCAN PROCEDURES*				

03-3-C013 CROSS a radiologically contaminated area

C *IDENTIFY TERRAIN FEATURES ON A MAP*				
C *DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP				
C *ORIENT A MAP TO THE GROUND BY MAP-TERRAIN ASSOCIATION*				

19-3-C005 PROCESS captured documents and equipment

COLLECT/REPORT INFORMATION SALUTE				
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17-3-1041 RESPOND to the residual effects of a nuclear attack

C	*DRINK, USE THE LATRINE, AND CHECK SOLDIER SLEEPING IN MOPP*				
C	*PUT ON, WEAR, REMOVE, AND STORE YOUR M24 OR M25 SERIES PROTECTIVE				
C	*PUT ON AND WEAR MOPP GEAR*				
C	*REACT TO NUCLEAR HAZARD*				
C	*EVALUATE A CASUALTY*				
C	*PREVENT SHOCK*				
C	*GIVE FIRST AID FOR BURNS*				
C	*PUT ON, WEAR, AND REMOVE YOUR M17 SERIES PROTECTIVE MASK WITH				
C	*DECONTAMINATE YOUR SKIN AND PERSONAL EQUIPMENT*				

19-3-C004 PROCESS enemy prisoners of war

	COLLECT/REPORT INFORMATION SALUTE				
C					
C	*CONDUCT COMBAT OPERATIONS ACCORDING TO THE LAW OF WAR*				

44-3-C001		USE passive air defense measures	
C	*CAMOUFLAGE YOURSELF AND YOUR INDIVIDUAL EQUIPMENT*		
C	*CAMOUFLAGE EQUIPMENT*		
C	*CAMOUFLAGE YOUR DEFENSIVE POSITION*		
C	*CONSTRUCT INDIVIDUAL FIGHTING POSITION*		
C	*IDENTIFY TERRAIN FEATURES ON A MAP*		
C	*DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP		
	COLLECT/REPORT INFORMATION SALUTE		
C			
C	*PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*		
C	*PRACTICE NOISE, LIGHT, AND LITTER DISCIPLINE*		
C	*PERFORM SEARCH AND SCAN PROCEDURES*		
17-3-1032b		PERFORM platoon maintenance operations	
C	*MAINTAIN YOUR M17 SERIES PROTECTIVE MASK WITH HOOD*		
C	*MAINTAIN YOUR M25 SERIES PROTECTIVE MASK WITH HOOD *		
C	*MAINTAIN AN M16A2 RIFLE*		

44-3-C002		TAKE active air defense measures against hostile aircraft				
C	*ENGAGE TARGETS WITH AN M60 MACHINE GUN*					
	COLLECT/REPORT INFORMATION SALUTE					
C						
C	*PERFORM SURVEILLANCE WITHOUT THE AID OF ELECTRONIC DEVICES*					
C	*PERFORM SEARCH AND SCAN PROCEDURES*					
C	*ENGAGE HOSTILE AIRCRAFT WITH SMALL ARMS*					

ESSENTIAL SOLDIER TASKS
Unit: SCOUT PLT MTP: TRK & MECH INF BN TF
MOSC: 19D CAVALRY SCOUT
Skill Level 2
C = Common Tasks
Collective Tasks
Supporting Tasks

03-3-C011 PREPARE for a chemical attack

C *ORIENT A MAP USING A LENSATIC COMPASS*			
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03-3-C012 PREPARE for a nuclear attack

C *ORIENT A MAP USING A LENSATIC COMPASS*			
C *DETERMINE AZIMUTH USING A PROTRACTOR*			
C *COMPUTE BACK-AZIMUTHS*			

03-3-C013 CROSS a radiologically contaminated area

C *ORIENT A MAP USING A LENSATIC COMPASS*			
C *USE A MAP OVERLAY*			

03-3-C015 RESPOND to a chemical agent attack

C *USE A SOI*			
C *ORIENT A MAP USING A LENSATIC COMPASS*			

03-3-C034	CROSS a chemically contaminated area	17-3-1014	PERFORM a passage of lines
C		C	*USE A MAP OVERLAY*
C	*ORIENT A MAP USING A LENSATIC COMPASS*	17-3-1016	CONDUCT tactical movement
C	*USE A MAP OVERLAY*	C	*DETERMINE THE ELEVATION OF A POINT ON THE GROUND USING A MAP*
08-3-C019	PREPARE and evacuate casualties	C	*ORIENT A MAP USING A LENSATIC COMPASS*
C	*USE A SOI*	C	*LOCATE AN UNKNOWN POINT ON A MAP AND ON THE GROUND BY
17-3-1012	PERFORM a tactical road march	C	*LOCATE AN UNKNOWN POINT ON A MAP AND ON THE GROUND BY RESECTION*
C	*USE A MAP OVERLAY*	C	*USE A MAP OVERLAY*
C	*USE A SOI*	C	*DETERMINE AZIMUTH USING A PROTRACTOR*
17-3-1013	OCCUPY an assembly area	C	*USE A SOI*
C	*USE A MAP OVERLAY*	17-3-1017	PERFORM a route reconnaissance
C	*USE A SOI*	C	*LOCATE A TARGET BY GRID COORDINATES*
Install a Hot Loop		17-3-1017	PERFORM a route reconnaissance
17-3-1014	PERFORM a passage of lines	C	*USE A MAP OVERLAY*
C	*DETERMINE THE ELEVATION OF A POINT ON THE GROUND USING A MAP*	C	*USE A SOI*
C	*NAVIGATE FROM ONE POINT ON THE GROUND TO ANOTHER POINT ON THE	17-3-1018	PERFORM a zone reconnaissance
C	*ORIENT A MAP USING A LENSATIC COMPASS*	C	*LOCATE A TARGET BY GRID COORDINATES*
C	*LOCATE AN UNKNOWN POINT ON A MAP AND ON THE GROUND BY	C	*USE A MAP OVERLAY*
C	*LOCATE AN UNKNOWN POINT ON A MAP AND ON THE GROUND BY RESECTION*	C	*USE A SOI*

17-3-1019 PERFORM an area reconnaissance			
C	*LOCATE A TARGET BY GRID COORDINATES*		
C	*USE A MAP OVERLAY*		
C	*USE A SOI*		
17-3-1020 RECONNOITER an obstacle and a bypass			
C	*USE A MAP OVERLAY*		
C	*USE A SOI*		
17-3-1021 EXECUTE actions on contact			
C	*LOCATE A TARGET BY GRID COORDINATES*		
C	*USE A SOI*		
17-3-1022 SUPPORT a hasty attack			
C	*LOCATE A TARGET BY GRID COORDINATES*		
C	*USE A MAP OVERLAY*		
17-3-1024 EXECUTE a dismounted patrol			
C	*LOCATE A TARGET BY GRID COORDINATES*		
C	*DETERMINE THE ELEVATION OF A POINT ON THE GROUND USING A MAP*		

17-3-1024 EXECUTE a dismounted patrol			
C	*NAVIGATE FROM ONE POINT ON THE GROUND TO ANOTHER POINT ON THE		
C	*ORIENT A MAP USING A LENSATIC COMPASS*		
17-3-1032b PERFORM platoon maintenance operations			
C			
17-3-1033 PERFORM precombat checks			
C	*SUPERVISE THE FITTING OF PROTECTIVE MASKS*		
C			
17-3-1035 PERFORM tactical planning			
C	*DETERMINE THE ELEVATION OF A POINT ON THE GROUND USING A MAP*		
C	*NAVIGATE FROM ONE POINT ON THE GROUND TO ANOTHER POINT ON THE		
C	*ORIENT A MAP USING A LENSATIC COMPASS*		

17-3-1035	PERFORM tactical planning				
C	"USE A MAP OVERLAY"				
17-3-1036	EMPLOY command and control measures				
C	"USE A MAP OVERLAY"				
C	"USE A SOI"				
17-3-1037	EMPLOY operations security (OPSEC)				
C	"USE A SOI"				
	Install a Hot Loop				
17-3-1038	RESPOND to the initial effects of a nuclear attack				
C	"LOCATE A TARGET BY GRID COORDINATES"				
C					
C	"ORIENT A MAP USING A LENSATIC COMPASS"				
17-3-1038	RESPOND to the initial effects of a nuclear attack				
C	"USE A SOI"				
44-3-C001	USE passive air defense measures				
C	"LOCATE A TARGET BY GRID COORDINATES"				

SOURCE: SATS Software and FM 17-98, Scout Platoon

TABLE 5.--Analysis of Training Time

STMH-Scheduled Training Man Hours
UTMH-Used Training Man Hours

MONTH	STMH	UTMH
JANUARY	402	182.5
FEBRUARY	229.5	158
MARCH	295.5	187
APRIL	453	332
MAY	195.5	149
JUNE	156.5	60.5
JULY	219	166
AUGUST	272	202.5
SEPTEMBER	218.5	169
OCTOBER	434	300.5
NOVEMBER	322	228
DECEMBER	186	145
TOTAL/MEAN	3383.5/282	2280/190

The % of Utilization: (UTMH/STMH): .68

SOURCE: Unit data compiled from Weekly Training Schedules,
Jan-Dec 1992, 3rd Squadron/11th Armored Cavalry Regiment.

TABLE 6.--Analysis of Training Time During Semi-Annual
Gunnery

STMH-Scheduled Training Man Hours
UTMH-Used Training Man Hours

MONTH	STMH	UTMH
MARCH	295.5	187
APRIL	453	332
OCTOBER	434	300.5
NOVEMBER	322	228
TOTAL/MEAN	1504.5/376	1047.5/262

The % of Utilization: (UTMH/STMH): .6941

The % of Gunnery Utilization/YR: (UTMH-G/UTMH) = .4594

SOURCE: Unit data compiled from Weekly Training Schedules,
Jan-Dec 1992, 3rd Squadron/11th Armored Cavalry Regiment.

TABLE 7.--Analysis of 19D OSUT Training

BOS	COLL TASK	COMMON TASKS 10/20	MOS TASKS 10/20	OSUT COMMON 10/20	OSUT MOS 10/20
C2	6	24/8	0/1		
MNVR	11	138/36	92/1		
INT	2	1/0	2/0		
ADA	2	13/1	2/0		
M/CM/S	8	89/13	2/0		
CSS	4	24/1	0/0		
TOTAL	33	289/59	98/2	NA	NA
ORIGINAL	NA	76/11	27/1	48/3	10/0

The % 19D10/20 Common Tasks trained in OSUT: .63/.27

The % 19D10/20 MOS Tasks trained in OSUT: .37/.00

The % Total 19D10/20 Tasks trained in OSUT: .53

SOURCE: USAARMS 19D OSUT POI, 7 November 1988

TABLE 8.--Statistical Analysis of Battle Outcome (Method 1)

RAND 1985-1987

BATTLE OUTCOME

RECON STATUS	SUCCESS	DRAW	FAILURE	% OF RECON TOTAL
GOOD	9	3	1	17%
DRAW	4	6	4	18%
POOR	4	8	38	65%
% OF BATTLE OUTCOME	22%	22%	56%	

WOLLF 1987-1990

BATTLE OUTCOME

RECON STATUS	SUCCESS	DRAW	FAILURE
*	24	6	159
% OF BATTLE OUTCOME	13%	3%	84%

* Study concluded that reconnaissance was successful 50% of the time during the 189 battles reviewed.

MILLER 1990-1992

BATTLE OUTCOME

RECON STATUS	SUCCESS	DRAW	FAILURE	% OF RECON TOTAL
GOOD	10	6	30	34%
DRAW	12	4	14	22%
POOR	6	7	45	43%
% OF BATTLE OUTCOME	21%	13%	66%	

SOURCE: (1): RAND Corporation Study, 1985-1987
(2): SAMS Monograph, Major Terry Wolff, 1987-1990
(3): NTC Take Home Packages 1990-1992 reviewed by
author in the Center For Army Lessons Learned

TABLE 9.--CHI Square Analysis of Battle Outcome

RAND 1985-1987

BATTLE OUTCOME

RECON STATUS	SUCCESS/ DRAW	FAILURE	TOTAL
GOOD	12 (5.7)	1 (7.3)	13
DRAW	10 (6.2)	4 (7.8)	14
POOR	12 (22.1)	38 (27.9)	50
TOTAL	34	43	77

Chi-square of 24.78 with 2df is significant at the alpha=.005

(Chi-square at .005=10.6)

H(0) rejected at alpha =.005

MILLER 1990-1992

BATTLE OUTCOME

RECON STATUS	SUCCESS/ DRAW	FAILURE	TOTAL
GOOD	16 (15.4)	30 (30.6)	46
DRAW	16 (10.1)	14 (19.9)	30
POOR	13 (19.5)	45 (38.5)	58
TOTAL	45	89	134

Chi-square of 8.52 with 2df is significant at the alpha=.025

(Chi-square at .025=7.38)

H(0) rejected at alpha =.025

SOURCE: (1): RAND Corporation Study, 1985-1987
 (2): SAMS Monograph, Major Terry Wolfe, 1987-1990
 (3): NTC Take Home Packages 1990-1992 reviewed by
 author in the Center For Army Lessons Learned

TABLE 10.--Comparison of HMMWV Scout Platoon versus CFV Scout Platoon

MILLER 1990-1992 CFV SCOUT PLATOON

BATTLE OUTCOME

RECON STATUS	SUCCESS	DRAW	FAILURE	% OF RECON TOTAL
GOOD	6	4	4	26%
DRAW	10	1	11	24%
POOR	6	5	34	50%
% OF BATTLE OUTCOME	24%	11%	65%	

MILLER 1990-1992 HMMWV SCOUT PLATOON

BATTLE OUTCOME

RECON STATUS	SUCCESS	DRAW	FAILURE	% OF RECON TOTAL
GOOD	4	2	16	51%
DRAW	2	3	3	19%
POOR	0	2	11	30%
% OF BATTLE OUTCOME	14%	16%	70%	

SOURCE: Data collected during review of NTC THPs for MILLER

TABLE 11.--Start/End of Mission Strength Analysis

START STRENGTH

M S N # N O	T Y P E	P L A N R D	D E L E T E S E	Z O N E O N	R E C O N	H A S T E S E	D E L A Y	M C O V E R T A C T	C O V E R	D E T A C K	L I N K - U P	D E T A C K	D E F E N S E	D E L A C K	C A T U T N A T C R	M S P I T E S R C I N E O G N N T H
92-1	#	2	4	2	1	1	2	3								
	%	64	69	81	86	69	61	59								68
92-2 ***	#	1	1			3	5			4						
	%	60	100			83	88			90						86
92-3	#		2		4		1			5	2					
	%		100		67		50			84	92					80
92-4 ***	#		2		1		3			2		2	2	2		
	%		85		100		90			80		85	80	80		85
92-5			2				3			2		3	1	1	1	
			67				72			83		83	83	83	100	79
92-6			2				2			5		1	1			
			67				83			67		50	83			70
92-7			3				5			4		2				
			78				77			75		92				79
92-8			4				3			5		2				
			79				78			63		92				75

***= HMMWV SCOUT PLATOON

MEAN PLATOON START STRENGTH=78%

AVG NUMBER OF VEHICLES: HMMWV=7.8

CFV=4.7

MEAN HMMWV START STRENGTH=86%

MEAN CFV START STRENGTH=75%

END STRENGTH

MS N # NC	T Y P E	F L A A R D	D E L F E N S E	2 O N C O N	R E S T E N S E	D E L A Y	M C O V E R T A C T	D E L T A C K	L I N K - U P	N I T T A C K	D E F E N S E	D E L T A C K	C A T U T N A T C E R	M S I T E S R N S E D I N O G N T H
92-1	#	2	4	2	1	1	2	3						
	%	78	67	50	55	75	48	20						56
92-2 ***	#	1	1			3	5		4					
	%	15	70			55	78		72					61
92-3	#		2		4		1		5	2				
	%		50		42		100		38	82				58
92-4 ***	#		2		1		3		2		2	2	2	
	%		41		100		48		50		35	85	75	62
92-5			2				3		2		3	1	1	1
			25				17		0		8	100	60	31
92-6			2				2		5		1	1		
			12				20		28		65	60		35
92-7			3				5		4		2			
			70				55		25		55			46
92-8			4				3		5		2			
			52				38		66		9			46

***= HMMWV SCOUT PLATOON

MEAN PLATOON END STRENGTH=49%
 AVG NUMBER OF VEHICLES: HMMWV=4.9
 CFV=2.9
 MEAN HMMWV END STRENGTH=61.5%
 MEAN CFV END STRENGTH=45%

SOURCE: CALL Study of NTC Rotations during 1992

TABLE 12.--Analysis of Task Deficiencies at NTC

		SHORTCOMINGS/DEFICIENCIES																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTALS
FRECOM STATUS		ST E A L T H	C & C	C O M M O	W I N G M A N	L A N D M A V	S O P	T I M E	P I R E F E R E N T	S A L U T E	F O R G E T M E N T	A G G R E S S	S T R E N G T H	M I S F A I L	T H R E A T	I N D E S K L S	H I D E P O S	S E C U R I T Y	T R E P L E M E N T	A C T O N C I T	L O G I S T I C	N E C E S S A R Y	TOTALS
G O O D	CFV	17	18	5	7	9	13	3	6	0	15	1	1	1	2	1	7	1	5	2	0	0	
	HHHVV	7	13	2	1	3	9	1	2	0	4	0	0	0	0	0	6	3	0	0	3	0	
	TOTAL	24	31	7	8	12	22	4	8	0	19	1	1	1	2	1	13	4	5	2	3	0	168
D R A W	CFV	11	12	8	2	3	15	5	6	1	3	0	0	0	1	1	9	0	4	1	1	1	
	HHHVV	5	6	2	3	5	8	4	2	0	3	1	0	1	2	0	1	0	1	0	1	0	
	TOTAL	16	18	10	5	8	23	9	8	1	6	1	0	1	3	1	10	0	5	1	2	1	129
P O O R	CFV	40	41	29	8	29	39	30	17	21	23	9	0	5	13	22	20	10	24	20	7	15	
	HHHVV	7	12	4	3	4	8	5	4	1	4	1	0	2	3	1	2	0	1	0	1	0	
	TOTAL	47	53	33	11	33	47	35	21	22	27	10	0	7	15	23	22	10	25	20	8	15	484
TOTAL		87	82	50	24	53	92	48	37	23	52	12	1	9	20	25	45	14	35	23	13	16	781
% POOR OF TOTAL		54	52	66	46	62	51	73	57	96	52	83	0	78	75	92	49	71	71	87	61	94	62

SOURCE: Review of NTC THPs 1990-1992 by author

TABLE 13.--Proposed Reconnaissance Prioritized Task List

BOS	COLLECTIVE TASKS
-----	------------------

COMMAND AND CONTROL

Perform pre-combat checks
Prepare for tactical ops

MANEUVER

Conduct tactical movement
Perform Route Recon
Perform Zone Recon
Perform Area Recon
Reconnoiter an obstacle and bypass
Execute actions on contact

INTEL

Identify Enemy Tactical Employment

AD

Use passive air defense measures

M/S/CM

Cross a radiologically contaminated area
Cross a chemically contaminated area

CSS

Perform resupply ops
Perform platoon maintenance ops
Prep and Evacuate casualties

SOURCE: Author Analysis and USAARMS 19D OSUT POI,
7 November 1988

TABLE 14 Proposed Collective Task-Identify Enemy Tactical
Employment

ELEMENT: SCOUT PLATOON

TASK: Identify Enemy Tactical Employment (17-3-XXXX)
 (FM 17-98)

CONDITION: The platoon is required to conduct
reconnaissance operations to confirm or deny enemy
dispositions or intentions in support of BN/TF operations.
Threat forces are establishing hasty defensive positions and
the platoon will be operating in an area occupied by
elements of the forward security forces and the first
echelon main defensive belt forces.

TASK STANDARD: The platoon must collect and report
information on threat forces, equipment, tactical employment
and expected actions while maintaining freedom to maneuver.

SOURCE: Author Analysis utilizing FM 17-57-10-MTP, SCOUT
PLATOON

TABLE 15.--19D10/20 Common and MOS Task List for Proposed
Collective Task- Identify Enemy Tactical
Employment

19D10 COMMON TASKS

Estimate range
Identify terrain features on a map
Determine grid coordinates of a point
Determine a location on the ground by terrain association
Measure distance on a map
Orient a map to the ground by terrain association
Determine direction using field expedient methods
Perform surveillance using field expedient methods
Send a radio message
Perform search and scan procedures

19D20 COMMON TASKS

Locate a target by grid coordinates
Use a map overlay
Use a SOI

19D10 MOS TASKS

Locate a target by grid coordinates
Operate Night Vision Sight AN/PVS-4
Operate Night Vision Goggles AN/PVS-5
Operate M18 Infrared Binoculars
Estimate Range
Use a map overlay
Navigate from one point to another, dismounted
Collect and report Information Salute
Operate Radio Set AN/VRC-64/160
Operate Radio Set AN/VRC-12
Visually identify threat aircraft
Recognize friendly and threat armored vehicles

19D20 MOS TASKS

Install a Hot Loop

SOURCE: Author analysis, FM 17-98 SCOUT PLATOON, and FM
17-57-10-MTP, SCOUT PLATOON

TABLE 16.--Comparison of Current to Proposed Task Listings
with 19D OSUT Training

BOS	COLL TASK	COMMON TASKS 10/20	MOS TASKS 10/20	OSUT COMMN 10/20	OSUT MOS 10/ 20	NEW COM 10/ 20	NEW MOS 10/ 20	NEW COL TSK
C2	6	24/8	0/1					2
MNVR	11	138/36	92/1					6
INT	2	1/0	2/0					1
ADA	2	13/1	2/0					1
M/CM/S	8	89/13	2/0					2
CSS	4	24/1	0/0					3
TOTAL	33	289/59	98/2	NA	NA	146 /30	99/ 1	14
ORIGIN -AL	NA	76/11	27/1	48/3	10/0	57/ 9	27/ 1	NA

The % 19D10/20 Common Tasks trained in OSUT: .63/.27

The % 19D10/20 MOS Tasks trained in OSUT: .37/.00

The % Total 19D10/20 Tasks trained in OSUT: .53

The % of Proposed Task Listings to Current Task Listing:

19D10/20 Common Tasks: .75/.82

19D10/20 MOS Tasks: 1.00/1.00

SOURCE: Author analysis, FM 17-98 SCOUT PLATOON, FM
17-57-10-MTP, SCOUT PLATOON, and USAARMS 19D OSUT
POI, 7 November 1988

TABLE 17.--Proposed Scout Platoon Weekly Training Schedule
Template

DAY	TIME	EVENT	
Monday	0530-0700	PT (Aerobic Conditioning)	
	0700-0730	Personal Hygiene	
	0730-0815	Meal	
	0830-0845	Morning Formation	
	0845-0900	MVMNT to CMD MAINT	
	0900-1200	Vehicular Maintenance	
	1200-1245	Meal	
	1300-1700	Equipment Maintenance, PLL Reconciliation, Commo long range checks	
	1700-1800	Meal	
	1800-1900	Movement to Night Land Navigation	
	1900-1930	Safety briefings/Prep for Night Land Nav	
	1930-0100	Night Land Navigation Tng	
	Tuesday	0100-0200	MVMNT to Barracks/Accountability/ Standdown
		0730-0815	Meal
0815-0830		Prep for PT	
0830-0845		Morning Formation	
0845-1100		PT (Strength Conditioning)	
1100-1200		Personal Hygiene	
1200-1245		Meal	
1300-1700		Vehicle/Equipment/Doctrine Training (Threat and Allies)	
1700-1800		Meal	
1800-2100		Remedial Instruction Period	
Wednesday	0530-0700	PT (Aerobic Conditioning)	
	0700-0730	Personal Hygiene	
	0730-0815	Meal	
	0830-0845	Morning Formation	
	0845-0900	MVMNT to Classroom	
	0900-1200	Classroom Instruction Period 1	
	1200-1245	Meal	
	1300-1700	Classroom Instruction Period 2	
	1700-1800	Meal	
1800-2100	Remedial Instruction Period 2		

Thursday 0730-0815 Meal
 0815-0830 Prep for PT
 0830-1100 PT (Strength Conditioning)
 1100-1200 Personal Hygiene
 1200-1245 Meal
 1300-1700 Classroom Instructional Period 3
 1700-1800 Meal
 1800-2000 Prep for Mounted Instructional
 Period 4

Friday 0530-0700 PT (Aerobic Conditioning)
 0700-0750 Personal Hygiene
 0750-0815 Meal
 0830-0845 Morning Formation
 0845-0900 MVMNT to Motor Pool
 0900-1600 Mounted Instructional Period 4
 & AAR
 1600-1800 Recovery (Meal brought to Wash Rack)

Saturday 0730-0815 Meal
 0815-0830 Prep for PT
 0830-1030 PT (Strength Conditioning)
 1030-1040 Release Formation
 1200-1300 Meal
 1300-1700 Remedial Training Period 3

Sunday OFF

SOURCE: Author analysis

TABLE 18.--Analysis of Training Time For Proposed Weekly Training Template

STMH-Scheduled Training Man Hours

UTMH-Used Training Man Hours

RTMH-Remedial Training Man Hours

DAY	STMH	UTMH	RTMH
MONDAY	16	14	
TUESDAY	10	7.5	3
WEDNESDAY	10	9	3
THURSDAY	10.5	9.25	
FRIDAY	11.75	8.75	
SATURDAY	2.5	2	4
SUNDAY	0	0	
TOTAL/MEAN	60.75/10	50.5/8.4	10/1.7

The Coefficient of Determination(R²): .962

The % of Utilization: (UTMH/STMH): .83

The % Increase in Productivity: .22

SOURCE: Author

TABLE 19.--Focus, Goals and Objectives, and Guidance For the Scout Platoon

SCOUT PLATOON TRAINING FOCUS

- (1) An innovative training program which links the platoon chain of command, each individual scout, the equipment, and the resources to achieve maximum combat readiness.
- (2) An imaginative, disciplined, proud, and self-reliant soldier whose scouting skills, knowledge of the enemy, dedication to mission accomplishment, and physical condition are second to none.
- (3) Strong, aggressive, technically and tactically proficient scout sections capable of conducting individual operations-deep and back.

SCOUT PLATOON GOALS AND OBJECTIVES

- (1) Goal: A combat ready platoon tactically and technically trained to accomplish assigned reconnaissance and security missions.

Objectives:

- Squad and Section Leaders trained to maximize capabilities of subordinates and their assigned equipment.
- Soldiers trained to standards, individually proficient, and ready to fight as a member of the platoon combat team.

- (2) Goal: A combat ready platoon with all equipment maintained fully combat ready and ready to deploy.

Objectives:

- Equipment operated and maintained to standards.
- Platoon equipment and property properly accounted for and stowed IAW platoon load plans.
- Platoon reconciliation conducted weekly for all equipment.

- (3) Goal: A combat ready platoon with NCO leadership second to none.

Objectives:

- Soldiers have total confidence in leader abilities.
- Initiative is exercised by all platoon members.
- All soldiers prepared and confident in their ability to assume supervisors role.
- No replacement for personal self-development.

- (4) Goal: A combat ready platoon that takes care of the needs of each member of the platoon and their families.

Objectives:

- Outstanding personnel are recognized outstandingly.
- All soldiers and their families are fully integrated.
- Fairness, discipline, and safety in all we do-second nature.

(5) Goal: A combat ready platoon that demonstrates teamwork, comradeship, and an undying will to win.

Objectives:

- Team work, team work, team work in all we do.
- Internalization by each platoon member to be the best in all tasks, skills, and endeavors.

TRAINING GUIDANCE

Required Individual Training

- Weapons qualification-----Annually
- Advanced M16A2 qualification-----Semi-annually
- APFT-----Quarterly diagnostic, semi-annual record
- SDT-----Annually
- Water Safety Program-----Certification upon assignment or enrollment in swimming course.
- Combat Arms Recognition Course (NATO MODEL)---Successful completion within 6 months of arrival.
- Specialist Recognition Course (NATO MODEL)----Successful completion within 9 months of arrival.
- Combat Lifesaver Course-----Certification within 6 months of arrival, refresher training annually.
- NCODP-----12 hours quarterly.
- NATO Patrol Course(USAREUR)-----Successful completion within 12 months of arrival.
- Survival, Escape, Resistance, Evasion(SERE) Training--Annually.
- Equipment(Threat and Allied) Certification--Quarterly

Required Collective Training

- TEWT--Squad level and above quarterly
- STX--Section level and above quarterly
- FCX--Annually ICW level 1 gunnery
- FTX--Weekly at squad level
Monthly at section level
Quarterly at platoon level
- EXEVAL--Internal at platoon level semi-annually
External at platoon level annually
- Gunnery*--Only annual at crew level and platoon level

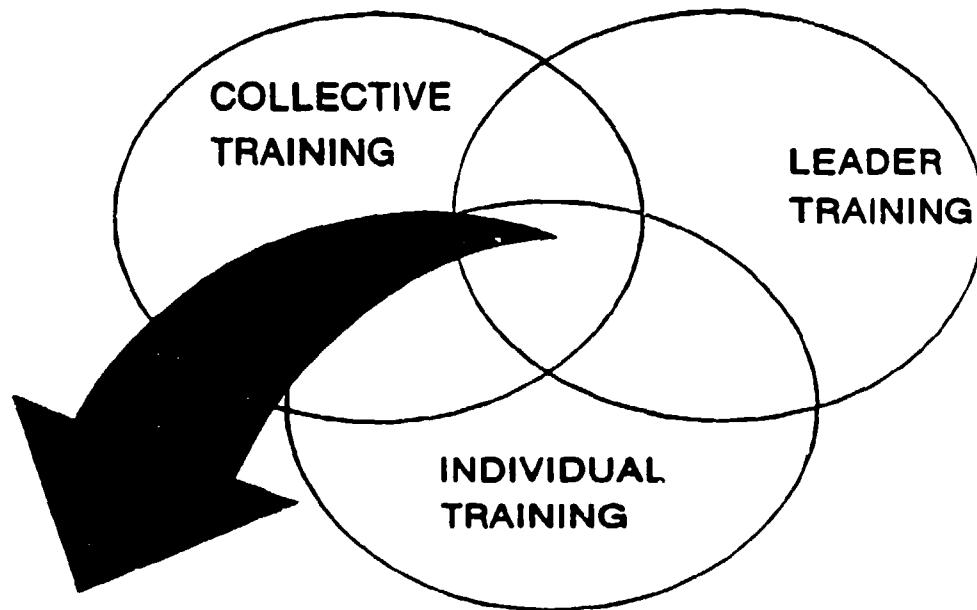
-C3 EXEVAL--ICW Battalion every 18 months
-Edre/Alert--Semi-annually

* Author's Note-Current requirement is semi-annual crew qualification for the CFV equipped crews. Author is stressing a deemphasis on gunnery qualification for scout squads in order to increase available training time for reconnaissance skills/tasks.

SOURCE: Author, 2ACR Reg 350-1, 30 November 1981, and 9ID (MTZ) Reg 350-1, 1 July 1988

FIGURE 1.--Training Interrelationship Model

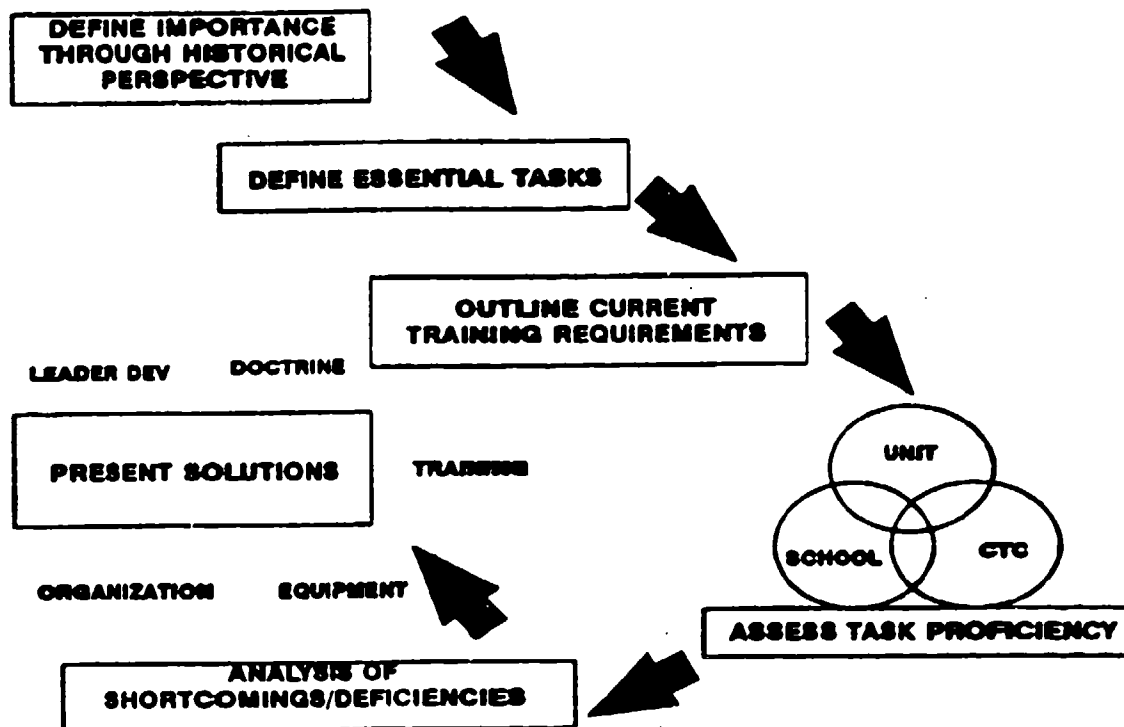
TRAINING INTERRELATIONSHIP MODEL



**MISSION
ACCOMPLISHMENT**

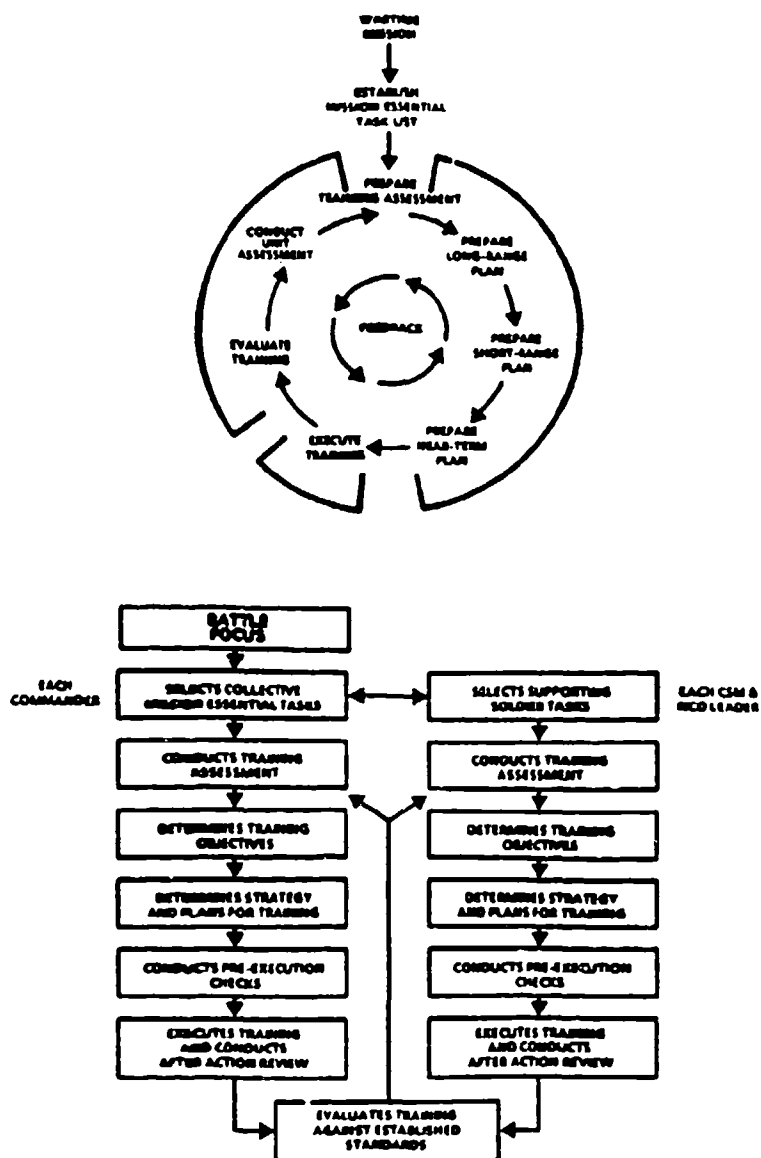
SOURCE: FM 25-100, Training the Force, November 1988

FIGURE 2.--Research Methodology



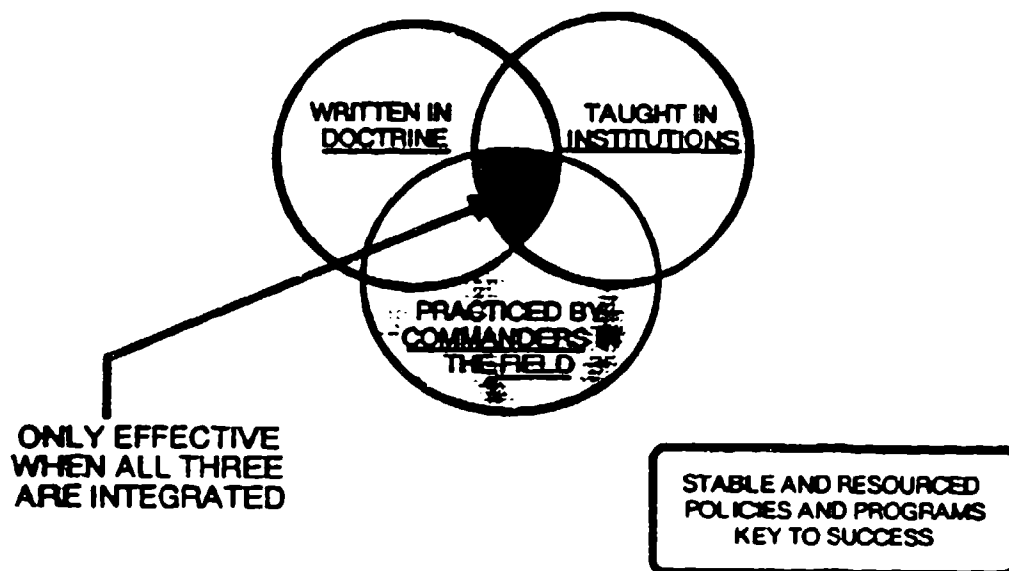
SOURCE: Author

FIGURE 3.--Army Training Cycle Model



SOURCE: FM 25-101, Battle Focused Training, November 1990

FIGURE 4.--CAC Institutionalized Combined Arms Training



SOURCE: Combined Arms Command Briefing Slide

APPENDIX C

SCOUT PLATOON TRAINING REFERENCES

SOURCE: USAARMS, Command and Staff Department, Professional Development Division, Leadership Branch.

ARMY REGULATIONS, CIRCULARS, AND PAMPHLETS

AR 350-1	<u>Army Training</u>
AR 350-15	<u>Army Physical Fitness Program</u>
AR 350-17	<u>Noncommissioned Officer Development Program</u>
AR 350-28	<u>Army Exercise Program</u>
AR 350-30	<u>Code of Conduct/SERE Tng</u>
AR 350-37	<u>Army Individual Training Evaluation Program</u>
AR 350-41	<u>Army Forces Training</u>
AR 350-216	<u>The Geneva Convention of 1949 and HAGUE Convention No. IV of 1907</u>
DA Cir 350-85-1	<u>Army Individual Training Evaluation Program</u>
DA PAM 350-15	<u>Commanders Handbook on Physical Fitness</u>
DA PAM 350-18	<u>The Individuals Handbook on Physical Fitness</u>
DA PAM 350-38	<u>Standards in Weapons Training</u>

ARTEPS

ARTEP 17-57-10-MTP	<u>Mission Training Plan for the Scout Platoon</u>
ARTEP 71-1-MTP	<u>Mission Training Plan for the Tank and Mechanized Infantry Company Team</u>
ARTEP 71-2-MTP	<u>Mechanized Infantry/Tank Task Force</u>

FIELD MANUALS

FM 1-88	<u>Aviator's Recognition Manual</u>
FM 3-3	<u>NBC Contamination Avoidance</u>
FM 3-4	<u>NBC Protection</u>
FM 5-30	<u>Engineer Intelligence</u>
FM 5-34	<u>Engineer Field Data</u>
FM 5-36	<u>Route Reconnaissance and Classification</u>

FM 6-20	<u>Fire Support in the AirLand Battle</u>
FM 17-95	<u>Cavalry Operations</u>
FM 17-95-10	<u>Armored Cavalry Regiment and Squadron</u>
FM 17-97	<u>Regimental Armored Cavalry Troop</u>
FM 17-98	<u>Scout Platoon</u>
FM 17-98-1	<u>Scout Leader's Handbook</u>
FM 20-32	<u>Mine/Countermine Operations</u>
FM 21-1	<u>Combat Communications</u>
FM 21-11	<u>First Aid for Soldiers</u>
FM 21-17	<u>Driver Selection, Training, and Supervision:</u> <u>Track Combat Vehicle</u>
FM 21-20	<u>Physical Readiness Training</u>
FM 21-26	<u>Map Reading</u>
FM 21-30	<u>Military Symbols</u>
FM 21-31	<u>Topographic Symbols</u>
FM 21-60	<u>Visual Signals</u>
FM 21-306	<u>Manual for the Track Combat Vehicle Driver</u>
FM 24-1	<u>Tactical Communications Doctrine</u>
FM 24-18	<u>Field Radio Techniques</u>
FM 25-100	<u>Training</u>
FM 34-130	<u>Intelligence Preparation of the</u> <u>Battlefield</u>
FM 44-30	<u>Visual Aircraft Recognition</u>
FM 55-9	<u>Unit Air Movement Planning</u>
FM 55-12	<u>Movement of Units in Air Force Aircraft</u>
FM 55-20	<u>Army Rail Transport Units and Operations</u>
FM 55-65	<u>Preparation for Unit Movement Overseas by</u> <u>Surface Transportation</u>
FM 63-2-2	<u>Combat Service Support Operations: Armored,</u> <u>Mechanized, and Motorized Divisions</u>
FM 71-1	<u>Tank and Mechanized Infantry Company Team</u>
FM 71-2	<u>Tank and Mechanized Infantry Battalion Task</u> <u>Force</u>
FM 71-3	<u>Armored and Mechanized Infantry Brigade</u>
FM 71-100	<u>Division Operations</u>
FM 71-123	<u>Tactics, Techniques, and Procedures for</u> <u>Combined Arms Heavy Forces</u>
FM 90-2	<u>Battlefield Deception</u>
FM 90-3	<u>Desert Operations</u>
FM 100-2-1	<u>Soviet Army Operations and Tactics</u>
FM 100-2-2	<u>Soviet Army Specialized Warfare and Rear Area</u> <u>Support</u>
FM 100-2-3	<u>The Soviet Army Troops Organization and</u> <u>Equipment</u>
FM 100-5	<u>Operations</u>
FM 101-5	<u>Staff Organization and Operations</u>
FM 101-5-1	<u>Operational Terms and Symbols</u>
FM 101-10-1	<u>Staff Officers' Field Manual-Organizational,</u> <u>Technical, and Logistical Data</u>

SOLDIER'S TRAINING PUBLICATIONS

STP 17-19D1-SM	<u>Soldier's Manual, MOS 19D, Cavalry Scout, Skill Level 1</u>
STP 17-19D23-SM	<u>Soldier's Manual, MOS 19D, Cavalry Scout, Skill Levels 2 and 3</u>
STP 17-19D4-SM	<u>Soldier's Manual, MOS 19D, Cavalry Scout, Skill Level 4</u>
STP 17-19D-TG	<u>Trainer's Guide, MOS 19D, Cavalry Scout</u>
STP 17-19D-JB	<u>Job Book, MOS 19D, Cavalry Scout, Skill Levels 1 and 2</u>

BIBLIOGRAPHY

Books

- Barnett, C., The Desert Generals, Bloomington, IN, Indiana University Press, 1986.
- Collins, A.S. JR, Common Sense Training, Novato, CA, Presidio Press, 1978.
- Findlay, P. (Translator) & Hart, B.H.L. (editor), The Rommel Papers, New York, NY, Da Capo Press, 1953.
- Heinl, R.D. Jr., Dictionary of Military and Naval Quotations, Annapolis, MD, U.S. Naval Institute, 1966.
- Patton, G.S. Jr., War As I Knew It, Boston, MA, Houghton Mifflin Co., 1975.
- Triandafillov, V.K. Nature of Operations of Modern Armies. Translated by W. A. Burhans. Woodbridge, VA: RUSS-ENG Translations, 1986.
- Tzu, Sun, The Art of War (Translated by S.B. Griffith), New York, NY, Oxford University Press, 1963.

Periodicals and Articles

- Andress, LT H.C., "The Bradley Challenge," Infantry, January/February 1991, pp. 18-21.
- Andreyev, Col K., "Reconnaissance of Rear Areas," translated from Krasnaya Zvezda in Military Review, May 1944.
- Friedenberg, LT R., "Reconnaissance in the Desert," Infantry, September/October 1991, pp. 39-40.
- Gourley, S.R., "Lessons for Bradley," Jane's Defense Weekly, 7 December 1991, p. 1113.
- Hoover, Curt L., "Scout Platoon Survivability Study," CALL, 21 July 1992.

- Kindsvatter, LTC P.S., "VII Corps on the Gulf War: Ground Offense," Military Review, February 1992, pp. 16-37.
- Love, R.S., "All the King's Horsemen: The Equestrian Army of Henri IV, 1585-1598," Sixteenth Century Journal, Fall 1991, pp. 510-533.
- Ludvigsen, E.C., "Armor's Future: From One, Many," ARMY, May 1991, pp. 44-47.
- Mallinson, A., "Charging Ahead: Transforming Britain's Cavalry 1902-14," History Today, January 1992, pp. 29-36.
- Morlanen, LTC J.H., "The Light Cavalry Regiment in Contingency Operations," Military Review, October 1992, pp. 65-75.
- Rosenberger, Maj John D., An Assessment of Reconnaissance/Counterreconnaissance at the NTC, USAAMRC, February 1987.
- Smith, B.A., "Pentagon Weighs Key Reconnaissance Issues Highlighted by Gulf War," Aviation Week & Space Technology, 22 April 1991, pp. 78-79.
- Summins, C.R., "The Indian Wars and US Military Through 1865-1890," Parameters, Spring 1992, pp. 60-72.
- Sendak, COL T., and Smith, CPT K.B., "History, Synergy and the Cavalry Squadron," Military Review, November 1991, pp. 57-66.
- White, MAJ I.D., "Reconnaissance Battalion, Armored Division," ARMOR, May/June 1985, pp. 24-28.
- Wray, CPT B., "Engineers as Part of the Combined Arms Reconnaissance Team," Engineer, October 1991, pp. 26-34.

Government Documents

- Department of the Army, Scout Platoon, Artep 17-57-10MTP, Ft. Knox, KY, USAAMRC, 1988.
- Department of the Army, Cavalry Operations. Field Manual 17-95, Washington D.C.: U.S. Government Printing Office, 19 September 1991.
- Department of the Army, Scout Platoon, Field Manual 17-98, Ft. Knox, KY, USAAMRC, October 1987.

Department of the Army, Soldier's Manual-Cavalry Scout, STP 17-19D1-SM, Ft. Knox, KY, USAAMRC, August 1989

Department of the Army, Soldier's Manual-Cavalry Scout, STP17-19D2/3-SM, Ft. Knox, KY, USAAMRC, August 1989.

Department of the Army, Soldier's Manual-Cavalry Scout, STP17-19D4-SM, Ft. Knox, KY, USAAMRC, August 1989.

Peoples Commissariat of Defense, USSR, Field Service Regulations. Translated by C. Borman. Carlisle Barracks, PA., U.S. Army War College, 1987.

U.S. Army Armor School, Program of Instruction, 19D10-OSUT, Fort Knox, KY, U.S. Army Armor School, 7 November 1988.

Wagner, R.E. The Warrior Manual for Mounted Combat, DA-2nd ACR, HQ, 2ACR, 1985.

Student Monographs and Theses

Abrams, C.W., "Mobility vs Firepower," Carlisle Barracks, PA, U.S. Army War College, 1 April 1953.

Bayles, W.J., "Combat Engineers: A Neglected Reconnaissance Asset," ADA2254514XSP, Ft. Leavenworth, KS, U.S. Army Command and General Staff College, 13 December 1989.

Belich, W.A., "Armor Utility in the Future," ADA2354462XSP, Carlisle Barracks, PA, U.S. Army War College, 5 April 1991.

Blandford, D., and Mains, S., "Scout Sensor Requirements Study," Staff Study, May-July 1989 - ADA2243524XSP, Fort Knox, KY, U.S. Army Armor School, 21 July 1989.

Butler, W.G. and Cooper, R.B., "US Army TRADOC Systems Analysis Activity (USATRASANA) Cavalry Fighting Vehicle (CFV) Force Development Test and Experimentation (FDTE) Training Analysis," ADP0012997XSP, White Sands Missile Range, NM, U.S. Army TRADOC Systems Analysis Activity, 1981.

Crow, C.L., "J-Series Cavalry Squadron and Its Reconnaissance Mission," Monograph-ADA1672518XSP, Fort Leavenworth, KS, U.S. Army Command and General Staff College, 13 December 1985.

- Daniels, M.D., "Armored Cavalry Regiment in the 1990s: Time to Restore the Eyes and Ears of the Corps Commander," ADA2364842XSP, Newport, RI, U.S. Naval War College, 21 June 1990.
- Diehl, J.H., "Who is Out There: Tactical Reconnaissance Formations for the Heavy Division," ADA2114684XSP, Ft. Leavenworth, KS, U.S. Army Command and General Staff College, 6 December 1988.
- Goldsmith, M. and Hodges, J., "Applying the National Training Center Experience: Tactical Reconnaissance," ADA1910389, Santa Monica, CA, RAND Corporation, October 1987.
- Harju, C.S., "White Paper-A Study of the Maneuver Battalion Reconnaissance or Scout Platoon," ADA2147981XSP, Ft. Knox, KY, U.S. Army Armor School, 18 September 1989.
- Hutchings, E.D., "Tactical Breach Operations in Modern Warfare," ADA2427052XSP, Ft. Leavenworth, KS, U.S. Army Command and General Staff College, 1 June 1990.
- Swan, Guy C., "Tactical Reconnaissance for the Heavy Brigade Commander: How Much is Not Enough?," Ft. Leavenworth, KS, U.S. Army Command and General Staff College, December 1988.
- Wolff, T.A., "Tactical Reconnaissance for the Armor Battalion Commander: Is the Scout Platoon Combat Capable or Combat Ineffective," ADA2331080XSP, Ft. Leavenworth, KS, U.S. Army Command and General Staff College, 27 December 1990.

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